US-PAT-NO: 5796945
DOCUMENT-IDENTIFIER: US 5796945 A
TITLE: Idle time multimedia viewer method and apparatus for collecting and displaying information according to user defined indicia

---

US PAT NO. Derived - DWKU:

5796945

TITLE - TTL:

Idle time multimedia viewer method and apparatus for collecting and displaying information according to user defined indicia

Brief Summary Paragraph Right - BSPR:

For many years, video information has been presented on video display terminals which typically having cathode ray tube technologies, although other display technologies have been developed. Common usage of such displays has been in television sets for displaying television signals broadcast by television stations or carried on cable. As computerized information processing technology developed, video display technology embodied in video display terminals was used to display information from mainframe computers. Video display terminals thereafter were readily used with microprocessors in what is commonly known as personal computers.

Brief Summary Paragraph Right - BSPR:

Video display terminals sometime experienced a problem known "burn-in". Burn-in occurred when a particular image was displayed for long periods of time; for example, a computer terminal displaying a coded grid for use in data entry of informational. The burn-in problem became more prominent with the advent of microprocessor-based game devices that often used televisions for video display of games. The burn-in problem arose because children and others playing the games would play for long period of time or leave the game on after play. The game board image would thereby be displayed for long periods of time, and the image became fixed in the phosphor screen of the television and was visible even after switching the game and the television off. To avoid this problem, game devices implemented strategies of shifting the displayed image and/or its colors or pattern during periods that the game was on but not being played.

Brief Summary Paragraph Right - BSPR:

While the screen savers in use today meet at least a perceived need to prevent burn-in by the display of random images during idle time of a computer, there is no mechanism for making productive use of such idle time. Today, many work environments are busy and active, and leisure time for personal development, personal interests, family, and the like is at a premium. The number of sources of information is increasing, and demands on non-work time are many.

Detailed Description Paragraph Right - DEPR:

The directory provides an index to the images. As illustrated in FIG. 2, the directory comprises a

hierarchy tree structure 34 of topics which can be selected for image collection. The topics become narrower in scope along the branches of the tree, which can be searched alphabetically or sequentially. In a preferred embodiment, the library 12 comprises a part of an electronic complex having a computerized database of image collections and directories. The database is part of an on-line interactive information source which is accessible by a user of the computer 14 through the modem. In an alternate embodiment, the library 12 comprises a database local to the computer 14, such as a compact disk read only memory device that receives and communicates with a compact disk of information, including graphic images databases, encyclopedias, and the like.

Detailed Description Paragraph Right - DEPR:

The subject matter collections 30 in the library 12 are periodically updated by librarians with new graphic and text data. In the preferred embodiment, the updates occur daily, for example, current political, economic, and sports information. Each of the images collections comprise graphics images, tag-lines, texts, template identifiers, and sounds. The graphics images are still, fixed images and motion video clips of still images in sequence. The tag-lines are a short text explanatory statements associated with each graphics images. The texts are more detailed news-story style explanations of the subject matters; for example, a sports report about a particular game illustrated in the graphics image. The template identifier is a code that refers to a print template to be used if the user selects to print a hard copy of the collected image. Sounds, such as quotes from an individual shown in the graphics image, may be part of the collected images for playing during display of the graphics or text images.

Detailed Description Paragraph Right - DEPR:

After the user profile is established and saved to the disk 19, the image collection control software 38 accesses the library 12 and selects images from the library for collection. The user profile contains the names of the selected subject matters of interest to the user. These names comprise a set of user-defined indicia of images to collect. The image collection process uses each listed subject matter as a criteria and collects from the library the images available for those subject matters. The images are transferred to the local data storage device such as hard disk 19 operatively communicating with the computer 14. In a preferred embodiment, the library 12 is accessed automatically at a predetermined time. Means are provided for the user to selectively require the control software to access the library 12 for the updated images.

Detailed Description Paragraph Right - DEPR:

Control software 36 is provided for a user to define image collection indicia that reflects the interests of the user. The indicia is subsequently used for the selection and collection of images. The indicia is maintained in a user profile. Each user creates a profile that details the specific subject matters and interests for collection of images. For example, the user profile can define the images to collect to include a certain college football team, business news, weather information, political news, daily cartoons, and the like. The profile accordingly defines the criteria for the images to be collected from the library 12. FIG. 3 is a representative screen 49 showing a user profile as displayed on the video terminal 24. The subject matters available for selection are listed in a playlist 50 that includes a select/non-select indicator 52, a subject matter icon 53 and definition 54 in text form, and an index button 55. If active, the button 55 permits accessing other related subject matters that are subsets of the parent subject matter. If the index button 55 is not active, images are available for collection for the particular named subject matter. In a preferred embodiment, the subject matters are grouped in a tree-style hierarchy, with branches to narrower subject matters, as discussed above. Directional arrows 56 allow scrolling of the subjects on the play list 50. The mouse operated cursor is positioned on the particular arrow 56 and actuated to cause the directory listing to scroll in the alphabetical listing to display subject matters 54 in the play list 50. Other mechanisms for presenting hierarchical

structures are gainfully used with the present invention 10. FIG. 2 illustrates an example hierarchy tree structure that branches to narrower topics until the final narrow topics having image collections available for selection are listed. On the illustrated screen 49, the user has selected a connection to a commercial on-line information service, a multimedia CD/ROM player, and a sports weekly, as indicated by the X in the respective indicators 52. The subject matters 54 in the illustrated embodiment MPEG player, the Atlanta Braves 1994, and the subscription to the syndicated comic are not selected.

Detailed Description Paragraph Right - DEPR:

A "connect now" switch 150 selectively displays a button on the idle time image display. Activating the button 150 with the mouse and cursor causes the apparatus 10 to open or "launch" a connection with conventional on-line browsing software, such as that used to access commercial information networking systems. A browser button 152 also launches the on-line software directly from the connection window which facilitates connecting to commercial information networks.

Detailed Description Paragraph Right - DEPR:

At the predetermined time set in the connectivity screen (FIG. 4D), the microprocessor 20 automatically accesses the library 12. In a preferred embodiment, the library 12 is an on-line information service accessed through the modem communications device. The control software 38 uses the selected 52 subject matters 54 in the user profile 50 as criteria for selecting and collecting images from the library 12. In the illustrated embodiment, this is accomplished by matching the subject matters 54 with the file names in the library 12.

Detailed Description Paragraph Right - DEPR:

The collected images are transferred from the library 12 to the hard disk 19 of the computer 14. Preferably, the collected images are sent as a single package of data. This minimizes the on-line connect time associated with accessing such services by modem. After downloading the package, the control software 38 breaks the package apart into the separate series of image collections according to the selected 52 subject matters 54 in the play list 50. The separated series of image collections are then available for display by the image display control software 40.

Detailed Description Paragraph Right - DEPR:

The user may want to see additional information about a graphics image being displayed on the terminal 24 during idle time. A selected keyboard key can be defined by the user as a hotkey switch for directing the display control software to perform selected functions. One such function is to display in a magazine-style format the graphic image and its associated text, as illustrated in FIG. 5. The graphics image 50 is displayed with its associated tagline 160 that functions as a brief description of the graphics image. A header 162 is positioned over the graphics image 60 to identify the source subject matter 54 of the images. A text window 164 displays the associated text 166 for the graphics image 60. The text window 164 includes directional arrows 168 for scrolling through the text image. A close button 169 causes the control software 40 to end the display of the images and return the display on the video terminal to the previous graphic, for example, to the control window from which the image was selected.

Detailed Description Paragraph Right - DEPR:

The user can selectively create a printed report of the current displayed image. A template defines the graphics and text spaces for receiving the graphics data and the text data which are communicated to the printer 28. FIG. 6 illustrates a printed report 170 of a sports related image. A

header 172 on the report 170 includes date information available from the operating system of the computer 14. The report 170 includes a headline 176, the graphics image 60 in a pre-defined space, the tag-line 178 which is associated with the graphics image 60, and the text image 180 which fills in the pre-defined text space in the template. A footer 182 includes a page number and subject matter description. A banner 184 identifies the subject matter 54 of the images.

Detailed Description Paragraph Right - DEPR:

The following provides an example of the use of the present invention. A user creates a user profile listing subject matters of interest to the user for image collections as a) daily updates of Associated Press photos and news items; b) current weather map (national); c) video clip of yesterday's top "play of the day" in sports; d) a popular syndicated comic strip subscription; e) celebrity calendar. Subsequently, the image selection and collection control software automatically accesses the library at a predetermined time to receive the updated images for the user-selected subject matters. Typically, the library is accessed during early-morning hours, in order that the librarians can update the library with the news. In an alternate embodiment, the user can selectively require the image selection and collection software to access the library for updated information. The selection control software retrieves datafiles of images that correlate to the definitions in the user profile. The datafiles of images are grouped into a package which is transferred to the computer's hard disk.

Detailed Description Paragraph Right - DEPR:

Subsequently the user of the computer is otherwise occupied and the control software operating in the background of the computer determines that the computer is idle. This is accomplished by monitoring the activity of the serial input and output buses of the computer. In the absence of keyboard or mouse input or printer output for a period of time, the control software determines that the computer is idle. After the predetermined period of idleness, the display control software begins displaying the series of collected images as set forth in the user profile. An image of the President appears and fades to black after the predetermined display period as set forth in the user profile. The weather map is displayed, and the screen fades the black. A video clip of an exciting basketball play is then displayed, and repeated during the display period, before the screen fades to black. The selected cartoon is then displayed.

Detailed Description Paragraph Right - DEPR:

While the present invention has been described with respect to a library 12 that serves a wide area network of remotely located computers 14 and for a local individual computer, the present invention would also be applied in a local area network, such as a on-line interactive database on a server computer as part of a corporate information system. The managers of the database and the server computer also maintain the local area network library. Corporate-related topics would be available on the library for selection by users on the network. These topics include daily stock price, a daily tip on using particular computer software, corporate news, and the like.

Detailed Description Paragraph Right - DEPR:

In an embodiment for a local individual computer, a service bureau distributes periodically to subscribers a high capacity disk, such as a CD-ROM disk, containing image collections for access by the control software of the present invention. The CD-ROM device provides a high speed, local database for a library of images to be selected and collected for display as described above.

Claims Paragraph Right - CLPR:

8. The apparatus as recited in claim 7, wherein the library is an on-line information source.

Claims Paragraph Right - CLPR:

18. The apparatus as recited in claim 17, wherein the electronic complex comprises an on-line information source.

Other Reference Publication - ORPL:

Morgenstern, "Farcast service broadcasts instanst info via the Internet", PC Week v11 n34 p. 50, Aug. 29, 1994.

Other Reference Publication - ORPL:

Rodriguez "Individual to tap Internet with an agent-based new service", InfoWorld v16 n43 p. 58, Oct. 24, 1994.

US-PAT-NO: 6137489
DOCUMENT-IDENTIFIER: US 6137489 A
TITLE: Communication apparatus for associating multimedia files with electronic mail

---

US PAT NO. Derived - DWKU:

6137489

Brief Summary Paragraph Right - BSPR:

The present invention relates to a communication apparatus such as a personal computer in which upon receipt of an article such as an electronic mail from a sender, it is expressed with a still picture, animation or sound based on personal information such as a name and age, on geographical information such as a distance from the sender, geographical features or place name, and on meteorological information such as a climate that the article has been sent from the particular sender.

Brief Summary Paragraph Right - BSPR:

When an article such as an electronic mail sent through a network arrives, a user requests a server for a list of articles, whereupon a list by text is displayed which contains names of senders, sending date and time, title, destination (addressee), identification (ID) information, etc. The user then downloads from the server the article he or she wishes to read.

Brief Summary Paragraph Right - BSPR:

Such list of articles by means of text being uniform and abstract, it tends to be quite uninteresting especially for children. Since children can not experience the fun of communication through an electric mail, they hardly have a desire to positively use a personal computer. With these points in mind, a communication system which prepares multimedia information suitable for children, such as pictures of lovely designs or sound effect to visually and auditorially materialize abstract concepts such as sending/receiving of articles to attract children attention by using the multimedia information.

Brief Summary Paragraph Right - BSPR:

In such conventional communication system as explained above, it can be concretely experienced with eyes and ears that he or she is communicating through the personal computer. However, it does not offer a service of providing more concrete data concerning who has sent the article from what kind of place or beyond what kind of place, although such data would lead to have the user (which may not always be children) a more concrete image, thereby making the user interested in communicating through the personal computer and letting him or her experience the fun of communication by using the personal computer.

Brief Summary Paragraph Right - BSPR:

The present invention has been made to solve the above problems, and it is a purpose of the present invention to provide a communication apparatus which enables a user to have a more concrete image of his or her communicating partner and to experience the fun of communication by

using a personal computer, wherein upon receipt of an article by utilizing information like a mail address, a material representing a sender or sending place is reproduced by means of a still picture, animation or sound corresponding to the sender, sending place or a geographical relationship between the sending place and the receiving place.

Brief Summary Paragraph Right - BSPR:

In the communication apparatus according to the present invention, attribute information of the sender and addressee, e.g. personal information (name, address, etc.) or environmental information (geographical features, meteorology, etc.), are stored in database together with materials such as a still picture, animation or sound which are for representing who has sent the article from what kind of place and beyond what kind of geographical space until the article has been received. The apparatus then performs the following steps: (1) extracting from the received article an information which specifies the sender of the article such as a mail address; (2) extracting attribute information corresponding to the sender and addressee from the database based on the specifying information obtained in (1); (3) selecting a material following a rule for selecting a material corresponding to the extracted attribute information; and (4) reproducing the selected material through a display or loudspeaker.

Brief Summary Paragraph Right - BSPR:

Hence, information concerning who has sent the article from what kind of place beyond what kind of geographical space are materialized so that the user is enabled to have a more concrete image of the communicating partner and to experience the fun of communication by using a personal computer.

Detailed Description Paragraph Right - DEPR:

A material storing unit 1 stores materials therein as information in a form of a still picture, animation or sound, wherein these materials are based on personal information of a sending/addressee (e.g. name/age: child, student, adult, male, female, aged, etc.; belonging organization: doctor, employee of a company, etc.; address: home, office, etc.) and on environmental information of the sending place/receiving (e.g. geography: geographical features: sea, mountain, river etc.; information specifying place names: prefecture name, city name, etc.; structures: bridge, tower, etc.; and meteorology: sky, star, sun, clouds, thunder. etc.)

Detailed Description Paragraph Right - DEPR:

An article information storing unit 4 stores therein articles such as electronic mails. If the article is an electronic mail, the mail address of the sender described on a header of the mail is the information specifying the sender.

Detailed Description Paragraph Right - DEPR:

A rule storing unit 5 stores therein material composing rules for obtaining a material to be selected from the material storing unit 1 for reproducing a material corresponding to the attribute information. Examples of such materials to be selected are as follows: if the weather is (sunny) and the time zone is (morning), a material "sky" (a picture of a sky with the morning glow); if the weather is (sunny) and the time zone is (day), a material "sky" (a picture of a blue sky); if the weather is (sunny) and the time zone is (at dusk), a material "sky" (a picture of a sky with the evening glow); if the weather is (sunny) and the time zone is (night), a material "sky" (a picture of a starry sky); if the geography is (sea) and the time zone is (morning), a material "sea" (a picture of a sea with the morning glow); if the geography is (sea) and the time zone is (day), a material "sea" (a picture of a calm sea); if the geography is (sea) and the time zone is (at dusk), a material "sea" (a picture of a sea with the

evening glow); if the geography is (sea) and the time zone is (night), a material "sea" (a picture of a sea in darkness); etc.

Detailed Description Paragraph Right - DEPR:

A material composing unit 6 extracts from the article which has been received and stored in the article information storing unit 4 information specifying the sender of the article which may be a mail address if the article is an electronic mail. The material composing unit 6 passes the mail address to a query information sending unit 7 as a query information which is to be sent to the server to obtain attribute information of the sender.

Detailed Description Paragraph Right - DEPR:

The material composing unit 6 also selects a material from the material storing unit 1 by referring to the rule storing unit 5 and following a rule corresponding to the attribute information of the sender which have been sent out from the server (as will be described later), and it further generates a format file of a material corresponding to the attribute information of the sender which is then passed to a material reproducing unit 9.

Detailed Description Paragraph Right - DEPR:

The query information sending unit 7 sends out the query information to the server which have been passed thereto from the material composing unit 6.

Detailed Description Paragraph Right - DEPR:

A personal information storing unit 21 of the server stores therein personal information such as an address, name, gender, age, etc., of the sender in accordance with the mail address of the person who sent the article.

Detailed Description Paragraph Right - DEPR:

A geographical information storing unit 22 stores therein geographical information such as a place name of each city (each prefecture, each district, each country, etc.), position (latitude/longitude), characteristic geographical features (sea, mountain, river, etc.) or a characteristic structure (building, bridge, tower, etc.).

Detailed Description Paragraph Right - DEPR:

A meteorological information storing unit 23 stores therein short-term and long-term meteorological information (sunny, rainy, cloudy, snowy, etc.) of each city (each prefecture, each district, each country, etc.).

Detailed Description Paragraph Right - DEPR:

These personal and environmental (geographical and meteorological) information are input through a DB (database) information inputting unit 24 which may be a keyboard, mouse, communication modem, etc. Especially time-varying information such as meteorological information may be regularly input by means of e.g. communication channels from a different server providing such information.

Detailed Description Paragraph Right - DEPR:

A query information obtaining unit 25 of the server obtains query information sent out from the query information sending unit 7 of the client to pass it to a DB information composing unit 26.

Detailed Description Paragraph Right - DEPR:

The DB information composing unit 26 passes the query information which have been passed thereto from the query information obtaining unit 25 to a DB information obtaining unit 27, or passes personal information of the sender, geographical and meteorological information of the sending place which have been obtained by the DB information obtaining unit 27 to a DB information sending unit 28.

Detailed Description Paragraph Right - DEPR:

The DB information obtaining unit 27 obtains the following information which are respectively passed to the DB information composing unit 26: personal information of the sender from personal information storing unit 21, based on the mail address of the sender which has been passed as query information; geographical information of the sending place from geographical information storing unit 22, based on the personal information; and meteorological information from meteorological information storing unit 23.

Detailed Description Paragraph Right - DEPR:

The DB information sending unit 28 sends out database information to the client which are personal, geographical or meteorological information that have been passed by the DB information composing unit 26.

Detailed Description Paragraph Right - DEPR:

A DB information obtaining unit 8 of the client obtains database information, namely attribute information of the sender, sent out from the DB information sending unit 28 of the server, and passes the information to the material composing unit 6.

Detailed Description Paragraph Right - DEPR:

A material reproducing unit 9 successively sends still picture and animation data of a material selected from the material storing unit 1 by the material composing unit 6 to a video memory 10 and further sends sound data to a speech synthesizing unit 11. Image data from the video memory 10 are output to a displaying unit 12 such as a liquid crystal display, and the speech synthesizing unit 11 synthesizes a speech sound from the sound data to output the synthesized speech sound from a loudspeaker 13.

Detailed Description Paragraph Right - DEPR:

FIG. 2 is a block diagram showing another example of an arrangement of a communication system of client-server type which is the apparatus of the present invention. It should be noted that portions which are identical with those of embodiment 1 as shown in FIG. 1 is marked with the same reference numerals, and any explanations will be deleted. In this embodiment, materials are selected based on attribute information of both, the sender and addressee.

Detailed Description Paragraph Right - DEPR:

A personal information storing unit 2 stores therein personal information such as address, name,

gender, age, etc., of an addressee in accordance with a mail address of the addressee who receives an article.

Detailed Description Paragraph Right - DEPR:

In this embodiment, an environmental information storing unit 3 stores therein environmental information of the receiving place which includes the name of the computer of the client (name of host) and its location (address/building name).

Detailed Description Paragraph Right - DEPR:

A material composing unit 6 obtains the mail address of the sender from an article information storing unit 4, personal information of the addressee from the personal information storing unit 2, and environmental information of the receiving place from the environmental information storing unit 3, and these personal and environmental information are sent to a query information sending unit 7 along with the mail address as query information to be sent out to the server in order to obtain attribute information of the sender or information concerning the geographical relationship between the sender and addressee.

Detailed Description Paragraph Right - DEPR:

The query information sending unit 7 sends out query information to the server which have been passed thereto from the material composing unit 6.

Detailed Description Paragraph Right - DEPR:

A query information obtaining unit 25 of the server obtains query information sent out from the query information sending unit 7 of the client to pass them to a DB information composing unit 26. The DB information composing unit 26 passes the query information passed from the query information obtaining unit 25 to a DB information analyzing unit 29.

Detailed Description Paragraph Right - DEPR:

The DB information analyzing unit 29 of the server obtains the following information which are respectively passed to the DB information composing unit 26: personal information of the sender from a personal information storing unit 21; geographical information of the sending place from a geographical information storing unit 22, based on the personal information; and meteorological information of the sending place from a meteorological information storing unit 23.

Detailed Description Paragraph Right - DEPR:

The DB information analyzing unit 29 analyzes, by referring to the geographical information storing unit 22, information concerning the geographical relationship between the sending place and the receiving place such as a distance, geographical features or structures between these two points, based on the latitude/longitude of the receiving place obtained from environmental information of the addressee (location of the computer of the client) and based on geographical information (latitude/longitude) of the sending place which have been sent out from the client as query information. The resulting analyzed information are passed to the DB information composing unit 26.

Detailed Description Paragraph Right - DEPR:

If an "article" is received at the article information storing unit 4 (Step S1), the material composing

unit 6 refers to the article information storing unit 4 in order to extract a "mail address of sender" from the "article" (Step S2).

Detailed Description Paragraph Right - DEPR:

The material composing unit 6 takes reference to the environmental information storing unit 3 to obtain "environmental information" (Step S3). The material composing unit 6 passes the "mail address of sender" and "environmental information" to the query information sending unit 7 (Step S4).

Detailed Description Paragraph Right - DEPR:

The query information sending unit 7 sends out the "mail address of sender" and "environmental information" to the query information obtaining unit 25 (Step S5). The DB information composing unit 26 passes the "mail address of sender" and "environmental information" to the DB information analyzing unit 29 (Step S6).

Detailed Description Paragraph Right - DEPR:

The DB information analyzing unit 29 obtains "personal information of the sender" from the personal information storing unit 21 based on the "mail address of senders " (Step S7). The DB information analyzing unit 29 further obtains "geographical information" and "meteorological information" by referring to the geographical information storing unit 22 and meteorological information storing unit 23 based on the "environmental information" (Step S8).

Detailed Description Paragraph Right - DEPR:

Moreover, the DB information analyzing unit 29 obtains "information of geographical features" existing between the sending place and receiving place from the geographical information storing unit 22, based on the "environmental information" (receiving place) and "geographical information" (sending place)(Step S9). The DB information analyzing unit 29 passes the "personal information of sender", "geographical information", "meteorological information", and "information of geographical features (existing between the sending place and receiving place)" to the DB information composing unit 26 (Step S10).

Detailed Description Paragraph Right - DEPR:

The DB information composing unit 26 then passes these information to the DB information sending unit 28 (Step S11), and the DB information sending unit 28, in turn, to the DB information obtaining unit 8 (Step S12).

Detailed Description Paragraph Right - DEPR:

The DB information obtaining unit 8 passes the obtained information to the material composing unit 6 (Step S13). The material composing unit 6 refers to the material composing rules of the rule storing unit 5 in order to generate a format file of a "material for reproducing" (Step S14).

Detailed Description Paragraph Right - DEPR:

The material reproducing unit 9 respectively sends image data successively to the video memory 10 and speech sound data to the speech synthesizing unit 11, so that an image, which is a material representing who has sent the article from what kind of place beyond what kind of geographical space, is output to the displaying unit 12, and a speech sound is output from the loudspeaker 13

(Step S16).

Detailed Description Paragraph Right - DEPR:

It should be noted that the above-described embodiment has been explained taking a communication system of client-server type as an example, but the apparatus of the present invention is not necessarily limited to this type, and the data held by the server may be held by a terminal equipment which is the client itself.

Claims Paragraph Right - CLPR:

2. The communication apparatus according to claim 1, wherein the attribute information is personal information of a person who sent the article.

Claims Paragraph Right - CLPR:

3. The communication apparatus of claim 2, wherein the personal information is a name of the person who sent the article.

Claims Paragraph Right - CLPR:

4. The communication apparatus of claim 2, wherein the personal information is the gender of the person who sent the article.

Claims Paragraph Right - CLPR:

5. The communication apparatus of claim 2, wherein the personal information is a belonging organization of the person who sent the article.

Claims Paragraph Right - CLPR:

6. The communication apparatus of claim 2, wherein the personal information is an address of the person who sent the article.

Claims Paragraph Right - CLPR:

7. The communication apparatus of claim 1, wherein the attribute information is environmental information of a place from which the article has been sent.

Claims Paragraph Right - CLPR:

8. The communication apparatus of claim 7, wherein the environmental information is meteorological information of the place from which the article has been sent.

Claims Paragraph Right - CLPR:

9. The communication apparatus of claim 7, wherein the environmental information is geographical information of the place from which the article has been sent.

Claims Paragraph Right - CLPR:

10. The communication apparatus of claim 9, wherein the geographical information is information of

a geographical feature of the place from which the article has been sent.

Claims Paragraph Right - CLPR:

11. The communication apparatus of claim 9, wherein the geographical information is a city name of the place from which the article has been sent.

Claims Paragraph Right - CLPR:

12. The communication apparatus of claim 9, wherein the geographical information is information of a structure existing at or around the place from which the article has been sent.

Claims Paragraph Right - CLPR:

15. The communication apparatus according to claim 14, wherein the geographical information of the geographical relationship is a distance between the sending place and the receiving place.

Claims Paragraph Right - CLPR:

16. The communication apparatus according to claim 14, wherein the geographical information of the geographical relationship is information concerning geographical features of land existing between the sending place and the receiving place.

Claims Paragraph Right - CLPR:

17. The communication apparatus according to claim 14, wherein the geographical information of the geographical relationship is information concerning a structure existing between the sending place and receiving place.

Claims Paragraph Right - CLPR:

18. The communication apparatus according to claim 14, wherein the geographical information of the geographical relationship is a city name existing between the sending place and the receiving place.

Claims Paragraph Right - CLPR:

19. A method for transmitting an article between a sender and a receiver, comprising:

Claims Paragraph Right - CLPR:

20. At least one computer program, embodied on a computer-readable medium, for transmitting an article between a sender and a receiver, comprising:

Claims Paragraph Type 1 - CLPV:

a first memory for storing attribute information of a sender of an article;

Claims Paragraph Type 1 - CLPV:

first means for obtaining particular attribute information stored in said first memory identified as that of the sender of a received article by extracting sub-information specifying the sender from the

received article;

Claims Paragraph Type 1 - CLPV:

a second memory for storing materials about the sender, a receiver, and environments thereof, including at least one of still pictures, animations and sounds;

Claims Paragraph Type 1 - CLPV:

a third memory for storing rules for selecting materials corresponding to the attribute information;

Claims Paragraph Type 1 - CLPV:

second means for selecting the particular material from said second memory to compose the particular material for reproduction in accordance with the particular attribute information obtained by said first means by referring to a rule stored in said third memory corresponding to the particular attribute information; and

Claims Paragraph Type 1 - CLPV:

a first memory for storing attribute information of a sender of an article;

Claims Paragraph Type 1 - CLPV:

a second memory for storing attribute information of an addressee of the article;

Claims Paragraph Type 1 - CLPV:

first means for obtaining sender attribute information stored in said first memory identified as that of the sender of a received article by extracting sub-information specifying the sender from the received article, and obtaining addressee attribute information from said second memory;

Claims Paragraph Type 1 - CLPV:

a fourth memory for storing rules for selecting materials, whereby a particular material corresponding to the sender and addressee attribute information may be selected;

Claims Paragraph Type 1 - CLPV:

second means for selecting the particular material from said third memory to compose the particular material for reproduction in accordance with the sender and addressee attribute information obtained by said first means by referring to a rule stored in said fourth memory corresponding to the sender and addressee attribute information; and

Claims Paragraph Type 1 - CLPV:

further comprising: means for obtaining geographical information of a geographical relationship between a sending place and a receiving place by analyzing the geographical information of the sending place and the receiving place,

Claims Paragraph Type 1 - CLPV:

wherein said fourth memory stores therein the rules for selecting materials corresponding to the geographical information of the geographical relationship, and

Claims Paragraph Type 1 - CLPV:

wherein said second means includes means for composing the particular material to be reproduced by selecting the particular material from said third memory corresponding to the geographical information of the geographical relationship by following the rules corresponding to the geographical information of the geographical relationship.

Claims Paragraph Type 1 - CLPV:

storing attribute information of the sender of the article, material information for the sender and the receiver, and rules for selecting the material information, the material information including at least one of still pictures, animations and sounds;

Claims Paragraph Type 1 - CLPV:

selecting at least one item of the material information based on sender attribute information corresponding to a sender identification extracted from the article after receipt by the receiver; and

Claims Paragraph Type 1 - CLPV:

producing a representation of the article based the at least one item of the material information.

Claims Paragraph Type 1 - CLPV:

storing attribute information of the sender of the article, material information for the sender and the receiver, and rules for selecting the material information, the material information including at least one of still pictures, animations and sounds;

Claims Paragraph Type 1 - CLPV:

selecting at least one item of the material information based on sender attribute information corresponding to a sender identification extracted from the article after receipt by the receiver; and

Claims Paragraph Type 1 - CLPV:

producing a representation of the article based the at least one item of the material information.

US-PAT-NO: 5796945

DOCUMENT-IDENTIFIER: US 5796945 A

TITLE: Idle time multimedia viewer method and apparatus for collecting and displaying information according to user defined indicia

---

US PAT NO. Derived - DWKU:

5796945

Brief Summary Paragraph Right - BSPR:

Video display terminals sometime experienced a problem known "burn-in". Burn-in occurred when a particular image was displayed for long periods of time; for example, a computer terminal displaying a coded grid for use in data entry of informational. The burn-in problem became more prominent with the advent of microprocessor-based game devices that often used televisions for video display of games. The burn-in problem arose because children and others playing the games would play for long period of time or leave the game on after play. The game board image would thereby be displayed for long periods of time, and the image became fixed in the phosphor screen of the television and was visible even after switching the game and the television off. To avoid this problem, game devices implemented strategies of shifting the displayed image and/or its colors or pattern during periods that the game was on but not being played.

Detailed Description Paragraph Right - DEPR:

The subject matter collections 30 in the library 12 are periodically updated by librarians with new graphic and text data. In the preferred embodiment, the updates occur daily, for example, current political, economic, and sports information. Each of the images collections comprise graphics images, tag-lines, texts, template identifiers, and sounds. The graphics images are still, fixed images and motion video clips of still images in sequence. The tag-lines are a short text explanatory statements associated with each graphics images. The texts are more detailed news-story style explanations of the subject matters; for example, a sports report about a particular game illustrated in the graphics image. The template identifier is a code that refers to a print template to be used if the user selects to print a hard copy of the collected image. Sounds, such as quotes from an individual shown in the graphics image, may be part of the collected images for playing during display of the graphics or text images.

Detailed Description Paragraph Right - DEPR:

After the user profile is established and saved to the disk 19, the image collection control software 38 accesses the library 12 and selects images from the library for collection. The user profile contains the names of the selected subject matters of interest to the user. These names comprise a set of user-defined indicia of images to collect. The image collection process uses each listed subject matter as a criteria and collects from the library the images available for those subject matters. The images are transferred to the local data storage device such as hard disk 19 operatively communicating with the computer 14. In a preferred embodiment, the library 12 is accessed automatically at a predetermined time. Means are provided for the user to selectively require the control software to access the library 12 for the updated images.

Detailed Description Paragraph Right - DEPR:

Control software 36 is provided for a user to define image collection indicia that reflects the interests of the user. The indicia is subsequently used for the selection and collection of images. The indicia is maintained in a user profile. Each user creates a profile that details the specific subject matters and interests for collection of images. For example, the user profile can define the images to collect to include a certain college football team, business news, weather information, political news, daily cartoons, and the like. The profile accordingly defines the criteria for the images to be collected from the library 12. FIG. 3 is a representative screen 49 showing a user profile as displayed on the video terminal 24. The subject matters available for selection are listed in a playlist 50 that includes a select/non-select indicator 52, a subject matter icon 53 and definition 54 in text form, and an index button 55. If active, the button 55 permits accessing other related subject matters that are subsets of the parent subject matter. If the index button 55 is not active, images are available for collection for the particular named subject matter. In a preferred embodiment, the subject matters are grouped in a tree-style hierarchy, with branches to narrower subject matters, as discussed above. Directional arrows 56 allow scrolling of the subjects on the play list 50. The mouse operated cursor is positioned on the particular arrow 56 and actuated to cause the directory listing to scroll in the alphabetical listing to display subject matters 54 in the play list 50. Other mechanisms for presenting hierarchical structures are gainfully used with the present invention 10. FIG. 2 illustrates an example hierarchy tree structure that branches to narrower topics until the final narrow topics having image collections available for selection are listed. On the illustrated screen 49, the user has selected a connection to a commercial on-line information service, a multimedia CD/ROM player, and a sports weekly, as indicated by the X in the respective indicators 52. The subject matters 54 in the illustrated embodiment MPEG player, the Atlanta Braves 1994, and the subscription to the syndicated comic are not selected.

Detailed Description Paragraph Right - DEPR:

The collected images are transferred from the library 12 to the hard disk 19 of the computer 14. Preferably, the collected images are sent as a single package of data. This minimizes the on-line connect time associated with accessing such services by modem. After downloading the package, the control software 38 breaks the package apart into the separate series of image collections according to the selected 52 subject matters 54 in the play list 50. The separated series of image collections are then available for display by the image display control software 40.

Detailed Description Paragraph Right - DEPR:

The user can selectively create a printed report of the current displayed image. A template defines the graphics and text spaces for receiving the graphics data and the text data which are communicated to the printer 28. FIG. 6 illustrates a printed report 170 of a sports related image. A header 172 on the report 170 includes date information available from the operating system of the computer 14. The report 170 includes a headline 176, the graphics image 60 in a pre-defined space, the tag-line 178 which is associated with the graphics image 60, and the text image 180 which fills in the pre-defined text space in the template. A footer 182 includes a page number and subject matter description. A banner 184 identifies the subject matter 54 of the images.

Detailed Description Paragraph Right - DEPR:

The following provides an example of the use of the present invention. A user creates a user profile listing subject matters of interest to the user for image collections as a) daily updates of Associated Press photos and news items; b) current weather map (national); c) video clip of yesterday's top "play of the day" in sports; d) a popular syndicated comic strip subscription; e) celebrity calendar. Subsequently, the image selection and collection control software automatically accesses the library

at a predetermined time to receive the updated images for the user-selected subject matters. Typically, the library is accessed during early-morning hours, in order that the librarians can update the library with the news. In an alternate embodiment, the user can selectively require the image selection and collection software to access the library for updated information. The selection control software retrieves datafiles of images that correlate to the definitions in the user profile. The datafiles of images are grouped into a package which is transferred to the computer's hard disk.

Detailed Description Paragraph Right - DEPR:

Subsequently the user of the computer is otherwise occupied and the control software operating in the background of the computer determines that the computer is idle. This is accomplished by monitoring the activity of the serial input and output buses of the computer. In the absence of keyboard or mouse input or printer output for a period of time, the control software determines that the computer is idle. After the predetermined period of idleness, the display control software begins displaying the series of collected images as set forth in the user profile. An image of the President appears and fades to black after the predetermined display period as set forth in the user profile. The weather map is displayed, and the screen fades the black. A video clip of an exciting basketball play is then displayed, and repeated during the display period, before the screen fades to black. The selected cartoon is then displayed.

phe·nom·e·nol·o·gy

phe·nom·e·nol·o·gy (fĭ-nŏm′ə-nŏl′ə-jē) *noun*
Philosophy.

1. The study of all possible appearances in human experience, during which considerations of objective reality and of purely subjective response are left out of account.
2. A movement based on this study, originated about 1905 by Edmund Husserl.

— **phe·nom′e·no·log′i·cal** (-nə-lŏj′ĭ-kəl) *adjective*
— **phe·nom′e·no·log′i·cal·ly** *adverb*
— **phe·nom′e·nol′o·gist** *noun*

nat·u·ral·ism

nat·u·ral·ism (năch′ər-ə-lĭz′əm, năch′rə-) *noun*

1. Factual or realistic representation, especially:. **a.** The practice of describing precisely the actual circumstances of human life in literature. **b.** The practice of reproducing subjects as precisely as possible in the visual arts.
2. **a.** A movement or school advocating such precise representation. **b.** The principles and methods of such a movement or of its adherents.
3. *Philosophy.* The system of thought holding that all phenomena can be explained in terms of natural causes and laws without attributing moral, spiritual, or supernatural significance to them.
4. *Theology.* The doctrine that all religious truths are derived from nature and natural causes and not from revelation.
5. Conduct or thought prompted by natural desires or instincts.

nat·u·ral

nat·u·ral (năch′ər-əl, năch′rəl) *adjective*
Abbr. **nat.**

1. Present in or produced by nature: *a natural pearl.*
2. Of, relating to, or concerning nature: *a natural environment.*
3. Conforming to the usual or ordinary course of nature: *a natural death.*
4. **a.** Not acquired; inherent: *Love of power is natural to some people.* **b.** Having a particular character by nature: *a natural leader.* See synonyms at normal. **c.** *Biology.* Not produced or changed artificially; not conditioned: *natural immunity; a natural reflex.*
5. Characterized by spontaneity and freedom from artificiality, affectation, or inhibitions. See synonyms at naive.
6. Not altered, treated, or disguised: *natural coloring; natural produce.*
7. Faithfully representing nature or life.
8. Expected and accepted: *"In Willie's mind marriage remained the natural and logical sequence to love"* (Duff Cooper).
9. Established by moral certainty or conviction: *natural rights.*
10. Being in a state regarded as primitive, uncivilized, or unregenerate.
11. **a.** Related by blood: *the natural parents of the child.* **b.** Born of unwed parents; illegitimate: *a natural child.*
12. *Mathematics.* Of or relating to positive integers.
13. *Music.* **a.** Not sharped or flatted. **b.** Having no sharps or flats.

noun

1. **a.** One having all the qualifications necessary for success: *You are a natural for this job.* **b.** One suited by nature for a certain purpose or function: *She is a natural at mathematics.*
2. *Music.* **a.** The sign (♮) placed before a note to cancel a preceding sharp or flat. **b.** A note so affected.
3. *Color.* A yellowish gray to pale orange yellow.
4. *Games.* A combination in certain card and dice games that wins immediately.
5. An Afro hairstyle.

[Middle English, from Old French, from Latin *nātūrālis*, from *nātūra*, nature. See nature.]

— **nat′u·ral·ness** *noun*

US-PAT-NO: 5555446

DOCUMENT-IDENTIFIER: US 5555446 A

TITLE: Selective call receiver capable of requesting information from a communication system and method therefor

---

US PAT NO. Derived - DWKU:

5555446

TITLE - TTL:

Selective call receiver capable of requesting information from a communication system and method therefor

Abstract Paragraph Left - ABPL:

A communication system has a base station having memory for storing information within a plurality of information files relating to a plurality of information services. A receiver receives an information service request for requesting information within at least one of the plurality of information files from a selective call receiver. A transmitter transmits the information requested from within the at least one information service file to the selective call receiver. The selective call receiver includes a generator for generating the information service request and a transmitter transmitting the information service request. The selective call receiver receives the information transmitted from the base station in response to the information service request and a display displays the received information.

Brief Summary Paragraph Right - BSPR:

This invention relates in general to communication systems and more specifically to a selective call receiver within a communication system capable of requesting information.

Brief Summary Paragraph Right - BSPR:

Generally, selective call receivers sub:scribing to a paging system are capable of receiving messages broadcast from the paging system addressed to one or a group of selective call receivers. The selective call receivers, by monitoring an assigned frequency, receive the messages from a central transmitter. Each message intended for a particular selective call receiver is encoded with the address of that selective call receiver which notifies the selective call receiver that a message is being sent from the central transmitter.

Brief Summary Paragraph Right - BSPR:

Some selective call receivers have acknowledge-back capability, that is, the selective call receivers are capable of responding to the transmission of an address from the central paging station by transmitting a short message to the central paging system to confirm receipt of its address or to redirect the message to an alternative selective call receiver. Similarly, an acknowledge-back paging system include:s a central station which broadcast messages to one or a group of selective call receivers having acknowledge-back capabilities, the group of selective call receivers, upon receipt of the message, transmit an acknowledge-back response to the central station, preferably on a different

frequency sub-band being allocated to the selective call receivers in the group.

Brief Summary Paragraph Right - BSPR:

Additionally, some selective call receivers are capable of receiving multi-recipient messages or information from various types of information services, for example, stock markets, sports, weather and new reports, etc. The multi-recipient messages, when transmitted, are capable of being received by only those pagers who are authorized to access the multi-recipient messages. Therefore, once a selective call receiver is authorized to access multi-recipient messages, the selective call receiver receives that type of message when it is being transmitted unless the pager is turned-off. Accordingly, the selective call receivers receive message only when the paging central station is transmitting and may devote enormous amounts of time receiving a very long message which shortens battery life because battery saving features are disabled when the selective call receiver is receiving the multi-recipient messages from an information services.

Brief Summary Paragraph Right - BSPR:

Thus, what is needed is a convenient and simple method for subscribing to a plurality of information services.

Brief Summary Paragraph Right - BSPR:

A communication system comprises a base station having memory for storing information within a plurality of information files relating to a plurality of information services. A receiver receives an information service request for requesting information within at least one of the plurality of information files from a selective call receiver. A transmitter transmits the information requested from within the at least one information service file to the selective call receiver. The selective call receiver includes a generator for generating the information service request and a transmitter for transmitting the information service request. The selective call receiver receives the information transmitted from the base station in response to the information service request and a display displays the received information.

Brief Summary Paragraph Right - BSPR:

In a communication system, a method for requesting information comprises the steps of

Brief Summary Paragraph Type 1 - BSPV:

(a) storing information in a base station within a plurality of information files relating to a plurality of information services;

Brief Summary Paragraph Type 1 - BSPV:

(b) receiving a request from a selective call receiver for information within one of the plurality of information files;

Brief Summary Paragraph Type 1 - BSPV:

(c) transmitting the information requested within the at least one information service file to the selective call receiver requesting same;

Brief Summary Paragraph Type 1 - BSPV:

(d) generating, in the selective call receiver, the information service request;

Brief Summary Paragraph Type 1 - BSPV:

(e) transmitting the information service request to the base station;

Brief Summary Paragraph Type 1 - BSPV:

(f) receiving the information transmitted from the base station in response to the information service requested by the selective call receiver; and

Brief Summary Paragraph Type 1 - BSPV:

(g) displaying the received information.

Drawing Description Paragraph Right - DRPR:

FIG. 2 is a block diagram of a hierarchy-tree-structure arrangement of a plurality of information service in accordance with the preferred embodiment of the present invention.

Drawing Description Paragraph Right - DRPR:

FIG. 3 is an information service request indicating an encoded codeword designating an information service from which information is requested in accordance with the preferred embodiment of the invention.

Drawing Description Paragraph Right - DRPR:

FIG. 4 is an electrical block diagram of a selective call receiver capable of requesting information in accordance with the preferred embodiment of the present invention.

Drawing Description Paragraph Right - DRPR:

FIG. 5 is an electrical block diagram of the microcomputer used in the base station of FIG. 1 and the selective call receiver of FIG. 4.

Drawing Description Paragraph Right - DRPR:

FIG. 7 is a flow diagram illustrating t:he operation of the selective call receiver of FIG. 4.

Detailed Description Paragraph Right - DEPR:

Referring to FIG. 1, a block diagram of a communication system is shown in accordance with the preferred embodiment of the present invention. A base station 100 includes a Radio Frequency (RF) transmitter/receiver 106 capable of transmitting and receiving information well known to those skilled in the art. The transmitter/receiver 106 is coupled to a processor 104, the processor 104 having a decoder 118 for decoding information service requests and other information received by the transmitter/receiver 106. A memory 116 stores information relating to a plurality of information service providers (or information services or information service files) 60, 122-124, 126,128, and 130.

Detailed Description Paragraph Right - DEPR:

The plurality of information service providers 120,122-124,126,128, and 130 are preferably coupled to a telephone interface 120 which is coupled to the processor 104. When the processor 104 receives information from the plurality of information services 120,122-124,126,128 and 130, the information is stored in memory. Access to the information files is provided by a hierarchy-tree-structure unique to the information services being subscribed to by each selective call receiver which is further described below. The plurality of information services 120,122-124,126,128 and 130, as shown, is coupled to the processor 104 via the telephone interface 120 for periodically receiving information to update the memory 116. A selective call receiver 200, as shown, is capable of requesting information from a selected information service being subscribed to by that selective call receiver 200 by transmitting the information service request to the base station 100 to be described in detail below. The base station 100, upon receipt of the information service request, accesses the information from the selected information service file of the plurality of information service files or directly from the service providers 120,122-124,126,128 and 130. FIG. 2 is an illustration of a hierarchy-tree-structure arrangement of the plurality of information service providers in accordance with the preferred embodiment of the present invention. Accordingly, the base station 100 is shown coupled to at least a subset of the plurality of information service providers. Some of the information service providers have corresponding information service files for storing information in memory 116 that is periodically received from respective information service providers. Those of ordinary skill in the art will appreciate that the plurality of information service providers can be alternatively coupled to transmitters and receivers (not shown) for providing communication between the base station 100 and the plurality of information service providers. This information service files store the most recent information as received from the respective information service providers. This information is then readily accessible to the selective call receivers 200 subscribing to that information service. Access to the information service is shown categorized in blocks of four according to the preferred embodiment o:f the present invention, but any other number of categorizations will be equally suitable. By using a four-level categorization, each of the four information services can be accessed by encoding two bits in the information service request, for example, communication by "00", information by "01", services by "10", and others by "11". Further reference to FIG. 3 shows an encoded information service request 300 according to the preferred embodiment of the present invention.

Detailed Description Paragraph Right - DEPR:

For illustration, if a user of a selective call receiver 200 is requesting information from "MY STOCKS" where FIG. 2 illustrates the subscription list for the requesting selective call receiver 200, the user, by selecting an appropriate switch, selects"INFORMATION" (FIG. 2) which encodes "01" in the information service request position 1. A further selection of "FINANCE" encodes "11" in the information request position 2. Subsequent selections of "DOMESTIC", "STOCK MARKET", "NYSE", and finally, "MY STOCKS" as shown by the bold directional arrow in FIG. 2 results in the information service request being encoded with the series of bits "011110010100", positions 1-6. The information service request 300 is then encoded with the address of the selective call receiver 200 from which the base station 100 determines whether the selective call receiver 200 has access to the selected information service, and if so, the base station 100 retrieves the requested information. A similar hierarchy-tree-structure access information is stored in memory of the base station for each selective call receiver identifying the information services and access to the information that are accessible by each selective call receiver. Those skilled in the art will appreciate that each selective call receiver 200 can have different information services in its hierarchy-tree-structure because each selective call receiver can subscribe to different information services. Accordingly, the subscription list of the selective call receiver 200 is stored in the memory 116 of the base station which uses the address of the information service request 300 to provide information back to the requesting selective call receiver 200. In this way, each selective call receiver subscribes only to the information services from which information is needed, the base station stores the list of information services available to each selective call receiver which is determined by an address assigned to each selective call receiver. Additionally, by arranging the each subset of information service being subscribed o by each selective

call receiver in the hierarchy-tree-structure, the information service request is encoded with 2.times.N bits which provides access information to 2.sup.N number of information service providers.

Detailed Description Paragraph Right - DEPR:

FIG. 4 is an electrical block diagram of a selective call receiver in accordance with the preferred embodiment of the present invention. The selective call receiver 200 comprises an antenna 202 for intercepting transmitted radio frequency (RF) signals which are coupled to the input of a receiver 204. The RF signals are preferably selective call (paging) message signals which provide a receiver address and an associated message, such as numeric or alphanumeric message. However, it will be appreciated that other well known paging signaling formats, such as tone only signaling or tone and voice signaling, would be suitable for use as well. The receiver 204 processes the RF signal and produces at the output a data stream representative of a demodulated address and message information. The demodulated address and message information are coupled into the input of a decoder/controller 206 which processes the information in a manner well known in the art. A power switch 210, coupled to the decoder/controller 206, is used to control the supply of power to the receiver 204, thereby providing a battery saving function as is well known in the art for use with selective call receivers. The power switch 210 also provides power to a transmitter 212 which transmits the information service request 300 (FIG. 3) to the base station 100.

Detailed Description Paragraph Right - DEPR:

For purposes of this illustration, it will be assumed that the POCSAG signaling format is utilized which is well known in the art, although other signaling formats could be utilized as well. When the address is received by the decoder/controller 206, the received address is compared with one or more addresses stored in a code plug (or code memory) 222, and when a match is detected, an alert signal is generated to alert a user that a selective call message, or page, has been received. The alert signal is directed to an audible alerting device 214 for generating an audible alert or to a tactile alerting device 216 for generating a silent vibrating alert. Switches 220 allow the user of the selective call receiver to select between the audible alert 214 and the tactile alert 216 in a manner well known in the art.

Detailed Description Paragraph Right - DEPR:

The message information which is subsequently received is stored in memory (not shown) and can be accessed by the user for display using one or more of the switches 220 which provide such additional functions as reset, read, and delete, etc. Specifically, by the use of appropriate functions provided by the switches 220, the stored message is recovered from memory and processed by the decoder/controller 206 for displaying by a display 208 which enables the user to view the message. Specifically, the switches 220 include switches for selection of the information service providers included in the subscription list and for encoding the information service request 300 as discussed above. The switches 220 also include a transmit switch (not shown) in accordance with the preferred embodiment for transmitting the information service request 00 to the base station 100. In this fashion, the user, by selecting the appropriate switches of switches 220, encodes the information service request 300 which is transmitted by pressing the transmit switch on switches 220 (not shown).

Detailed Description Paragraph Right - DEPR:

The controller/decoder 206 of FIG. 4 can be constructed utilizing a microcomputer as shown in FIG. 5. FIG;. 5 is an electrical block diagram of a microcomputer based decoder/controller suitable for use in the selective call receiver of FIG. 4 or the processor of FIG. 1. As shown, the microcomputer 206 is preferably an MC68HC05 microcomputer such as manufactured by Motorola, Inc., which includes an on-board display driver 514. The microcomputer 206 includes an oscillator 518 which generates the

timing signals utilized in the operation of the microcomputer 206. A crystal, or crystal oscillator (not shown) is coupled to the inputs of the oscillator 518 to provide a reference signal for establishing the microcomputer timing. A timer/counter 502 couples to the oscillator 518 and provides programmable timing functions which are utilized in controlling the operation of the receiver or the processor. A RAM (random access memory) 504 i:s utilized to store variables derived during processing, as well as to provide storage of message information which are received during operation as a selective call receiver. A ROM (read only memory) 506 stores the subroutines which control the operation of the receiver or the processor, as is well known to those skilled in the art. It will be appreciated that in many microcomputer implementations, the programmable-ROM (PROM) memory area can be provided by an EEPROM (electrically erasable programmable read only memory). The oscillator 518, timer/counter 502, RAM 504, and ROM 506 is coupled through an address/data/control bus 508 to a central processing unit (CPU) 510 which performs the instructions and controls the operations of the microcomputer 206.

Detailed Description Paragraph Right - DEPR:

The demodulated data generated by the receiver is coupled into the microcomputer 206 through an input/output (I/O) port 512. The demodulated data is processed by the CPU 510, and when the received address is the same as the code-plug memory which couples into the microcomputer through an I/O port 513, the message, if any, is received and stored in RAM 504. Recovery of the stored message, and selection of the predetermined destination address, is provided by the switches which are coupled to the I/O port 512. The microcomputer then recovers the stored message and directs the information over the data bus 508 to the display driver 514 which processes the information and formats the information for presentation by a display such as an LCD (liquid crystal display). At the time a selective call receiver address is received, the alert signal is generated which can be routed through the data bus 508 to an alert generator 516 that generates the alert signal which is coupled to the audible alert device that was described above. Alternatively, when the vibrator alert is selected as described above, the microcomputer generates an alert enable signal which is coupled through data bus 508 to the I/O port 513 to enable generation of a vibratory, or silent alert.

Detailed Description Paragraph Right - DEPR:

The battery saver operation is controlled by the CPU 510 with battery saving signals which are directed over the data bus 508 to the I/O port 512 which couples to the power switch. Power is periodically supplied to the receiver to enable decoding of the received selective call receiver address signals and any message information which is directed to the receiver or to the transmitter.

Detailed Description Paragraph Right - DEPR:

FIG. 6 is a flow diagram illustrating the operation of the communication system in FIG. 1. Operationally, the base station 100, after power-up (step 600), waits to receive information, step 602. According to the preferred embodiment of the present invention, the information received comprises either a request for information service from the selective call receiver 200 or information from any of the plurality of information service providers or information services coupled to the base station. Step 604 determines if the received information is an information service request. If it is determined otherwise, the received information is stored in the information service file being allocated for that type of service information, step 606. However, when the received information is the information service request, the processor of the base station decodes the address of the selective call receiver requesting information, step 608, and decodes the information service request to determine the information file in which the information being requested according to the hierarchy-tree-structure of the preferred embodiment, step 610. In step 612, the processor determines if that selective call receiver has access to the information service being requested. If the selective call receiver has no access to the information being requested, the base station terminates further processing, step 614.

When access is available, that is, when the selective call receiver has requested information from a information service being subscribed to by the selective call receiver, the base station determines whether the information requested is stored in memory in one of the plurality of information service files, step 616. If no, the base station sends out a request via a modem or other suitable transmitting means well known in the art, step 618. Such a request may include a request for help, for example, medical or police services, etc. In step 616, when the requested information is stored in one of the plurality of information files, the request information is retrieved, step 620, and encoded by well known techniques for subsequent transmission. The information is then transmitted at the first data rate over a communication channel to the selective call receiver, step 622. As is well known, the information being transmitted to the selective call receiver is preferably transmitted at a high data rate in a wide band channel, for example, 32 kbps, 64 kbps, etc. because of a high power transmitter which is available at the base station.

Detailed Description Paragraph Right - DEPR:

Further in FIG. 7, a flow diagram of the operation of the selective call receiver of FIG. 4 is shown. Operationally, when the user of the selective call receiver desires information relating to any of the subset of the plurality of information services that are subscribed to, the user, subsequent to power-up (step 700), presses the switches as discussed in FIG. 4 to encode the information service request for requesting information from the desired information service, step 702. The information service request is encoded according to the hierarchy-tree-structure for designating the selected information service, step 704. The encoded information service request is then combined with the address of the selective call receiver, step 706, and then transmitted to the base station, step 708.

Detailed Description Paragraph Right - DEPR:

In this way, the information being encoded in the hierarchy-tree-structure for designating the information service allows the selective call receiver to access the plurality of information service or information service providers with the fewest number of bits in the information service request. Also, because the selective call receiver is a low power device, using the fewest number of bits is attractive because lower power will be expended to transmit the information service request when the transmission is constrained in a narrow band channel having a low data rate, for example, 50 bps or 100 bps.

Detailed Description Paragraph Right - DEPR:

Continuing, after the information service request has been sent, the selective call receiver waits for the requested information, step 710. When the selective call receiver detects its address, it receives the information being requested for the information service provider via the base station, step 712. Therefore, the selective call receiver being able to subscribe to a plurality of information service providers having access being determined with the fewest number of bits in the hierarchy-tree-structure thereby allowing the user of the selective call receiver to easily encode the information service request for requesting information from any of the information service providers that the selective receiver has a subscription. Furthermore, because the selective call receiver only receives information when requested, the selective call receiver may have access to many different information services for which the designated access codes are minimized by encoding via the hierarchy-tree-structure. In this way, the selective call receiver is not bombarded with information as it becomes available regardless of whether the information is requested by the user of the selective call receiver. Therefore, the selective call receiver can maintain its battery saving features thereby maintaining or improving its required battery life.

Detailed Description Paragraph Right - DEPR:

In summary, the preferred embodiment of the present invention includes a communication system comprising a base station and a plurality of selective call receivers. The base station has a plurality of information files coupled to a plurality of information service providers. A microcomputer for processing information and information service requests decodes the information service requests from selective call receivers. Memory, preferably included in the microcomputer, stores access information relating to a subscription to at least a subset of the plurality of information service providers by each of the plurality of the selective call receivers. The base station has a receiver for receiving information service requests from the plurality of selective call receivers and for receiving information from the plurality of information service providers. The information from the information service providers are stored in respective information service files being designated to store information from that information service provider within the base station. A transmitter coupled to the microcomputer transmits the information to the selective call receiver requesting same. Each selective call receiver subscribing to at least a subset of the plurality of information service providers is capable of requesting data from one of the subset of information service providers. The selective call receiver includes a transmitter transmitting the information service request to the base station at a low data rate over the radio communication channel encoded to indicate the information service provider from which the information is being requested. A microcomputer coupled to the transmitter processes the information service request and encodes the information service request in a codeword for identifying the information service provider from the subset of information service providers from which data information is being requested. The codeword comprises a plurality of bits organized in a frame for identifying the information service provider wherein access to the subset of information service providers being subscribed to by the selective call receiver is organized in an hierarchy-tree-structure within the base station. The codeword is preferably encoded with 2.times.N of which N bits representing N number of levels in the hierarchy-tree-structure wherein 2.sup.2N represents the number of information service providers capable of being accessed by said selective call receiver having the codeword encoded with 2.times.N bits. Similarly, represents the number of a plurality of information files capable of being accessed. The base station, upon receipt of the codeword, identifies the information service provider by decoding the plurality of bits indicating the hierarchy-tree-structure for determining the information service provider from which information is being requested by the selective call receiver. A receiver coupled to the microcomputer receives information from the information service provider via the base station at a high data rate substantially higher that the data rate used for transmitting the information service request.

Claims Paragraph Right - CLPR:

2. The communication system according to claim 1 wherein the base station is coupled to a plurality of information service providers capable of providing the information to the plurality of information files, said plurality of information service providers periodically update the information stored in the plurality of information files.

Claims Paragraph Right - CLPR:

3. The communication system according to claim 1 wherein the base station further including a means for processing the information service request.

Claims Paragraph Right - CLPR:

4. The communication system according to claim 3 wherein the processing means further including a means for decoding the information service request.

Claims Paragraph Right - CLPR:

5. The communication system according to claim 1 wherein the codeword is encoded with

2.times.N number of bits corresponding to N number of levels of the hierarchy-tree-structure wherein 2.sup.2N represents a number of the plurality of information files capable of being accessed by said selective call receiver transmitting the information service request having a 2.times.N bit codeword.

Claims Paragraph Right - CLPR:

6. The communication system according to claim 1 wherein the transmitting means of the base station further including means for communicating with information service providers external to the base station in response to the information service request.

Claims Paragraph Right - CLPR:

7. The communication system according to claim 1 wherein the selective call receiver further including an inputting means for enabling a user to request information.

Claims Paragraph Right - CLPR:

8. A selective call receiver capable of generating an information service request, comprising:

Claims Paragraph Right - CLPR:

9. The selective call receiver according to claim 8 wherein the codeword is encoded with 2.times.N number of bits corresponding to N number of levels of the hierarchy-tree-structure and wherein 2.sup.2N represents a number of the plurality of information files capable of being accessed by said selective call receiver transmitting the information service request in a 2.times.N bit codeword.

Claims Paragraph Right - CLPR:

10. The selective call receiver according to claim 8 further comprising an inputting means for inputting the information for selecting the plurality of information services.

Claims Paragraph Right - CLPR:

11. In a communication system, a method for requesting information comprising the steps of:

Claims Paragraph Right - CLPR:

12. The method according to claim 11 further comprising the step of processing the information service request by the base station to determine the information file from which the information is being requested.

Claims Paragraph Right - CLPR:

14. The communication system according to claim 13 wherein the codeword comprising N bits representing N number of levels in the hierarchy-tree-structure wherein 2.sup.2N represents the number of the information service providers capable of being accessed by said selective call receiver having the codeword encoded with 2.times.N bits.

Claims Paragraph Right - CLPR:

15. A selective call receiver subscribing to at least a subset of a plurality of information service providers coupled to an external base station, comprising:

Claims Paragraph Type 1 - CLPV:

the selective call receiver including:

Claims Paragraph Type 1 - CLPV:

means for generating the information service request, said means for generating generates the information service request in a codeword having a 2.times.N series of bits capable of providing access to N levels of a plurality of information files wherein every 2 bits of the 2.times.N series of bits provides access to a different level of information in the plurality of information files organized in a hierarchy-tree-structure;

Claims Paragraph Type 1 - CLPV:

means for transmitting the information service request on a first frequency requesting information to a base station coupled to a plurality of information services;

Claims Paragraph Type 1 - CLPV:

means for receiving the information transmitted from the base station on a second frequency in response to the information service request;

Claims Paragraph Type 1 - CLPV:

means for storing the information being received; and

Claims Paragraph Type 1 - CLPV:

means for displaying the received information.

Claims Paragraph Type 1 - CLPV:

(a) storing the information, in a base station, within a plurality of information files relating to a plurality of information services, said step of storing stores access information relating to the plurality of information files wherein said access information being arranged in a hierarchy-tree-structure for providing access to the information stored in the base station;

Claims Paragraph Type 1 - CLPV:

(b) receiving a request from a selective call receiver for the information within at least one of the plurality of information files;

Claims Paragraph Type 1 - CLPV:

(c) transmitting the information requested within the at least one of the plurality of information files to the selective call receiver requesting the information;

Claims Paragraph Type 1 - CLPV:

(d) generating, in the selective call receiver, a information service request, said step of generating generates the information service request in a codeword having a 2.times.N series of bits capable of providing access to N levels of the plurality of information files wherein every 2 bits of the 2.times.N

series of bits provides access to a different level of information in the plurality of information files organized in the hierarchy-tree-structure;

Claims Paragraph Type 1 - CLPV:

(e) transmitting the information service request to the base station;

Claims Paragraph Type 1 - CLPV:

(f) receiving the information transmitted from the base station in response to the information service request by the selective call receiver;

Claims Paragraph Type 1 - CLPV:

(g) storing the information being received in the selective call receiver, and

Claims Paragraph Type 1 - CLPV:

(h) displaying the received information.

Claims Paragraph Type 1 - CLPV:

a plurality of selective call receivers;

Claims Paragraph Type 1 - CLPV:

said base station having a plurality of information files coupled to a plurality of information service providers, said base station comprising:

Claims Paragraph Type 1 - CLPV:

each selective call receiver subscribing to at least a subset of the plurality of information service providers wherein each selective call receiver capable of requesting the information from one of the subset of the information service providers, each selective call receiver comprising:

Claims Paragraph Type 1 - CLPV:

transmitting means for transmitting an information service request to said external base station indicating an information service provider from which information is being requested, said information service request being transmitted at a first information rate over a radio communication channel;

Claims Paragraph Type 1 - CLPV:

processing means coupled to the transmitting means for processing the information service request, said processing means further including an encoding means for encoding the information service request into a codeword identifying the information service provider from the subset of the plurality of information service providers from which the information is being requested, said codeword comprises an 2.times.N series of bits organized in a frame for identifying N levels of information service providers wherein every 2 bits of the 2.times.N series of bits is capable of providing access to a different level of the N levels of information service providers being organized in a hierarchy-tree-structure; and

Claims Paragraph Type 1 - CLPV:

receiving means coupled to the processing means for receiving the information from the information service provider via the external base station at a second information rate substantially higher than the first information rate.

Claims Paragraph Type 2 - CLPW:

means for storing information within a plurality of information files relating to a plurality of information services, said means for storing stores access information relating to the plurality of information services wherein said access information being arranged in a hierarchy-tree-structure for providing access to the information being stored;

Claims Paragraph Type 2 - CLPW:

means for receiving an information service request for requesting the information within at least one of the plurality of information files from a selective call receiver; and

Claims Paragraph Type 2 - CLPW:

means for transmitting the information requested from within the at least one of the plurality of information files to the selective call receiver; and

Claims Paragraph Type 2 - CLPW:

means for generating the information service request, said means for generating generates the information service request in a code word having a series of bits for identifying the at least one of the plurality of information files, wherein the plurality of information files are, organized in a hierarchy-tree-structure and the codeword having 2.times.N series of bits capable of providing access to N levels of the plurality of information files of the hierarchy-tree structure wherein every 2 bits of the 2.times.N series of bits provides access to a different level of the hierarchy-tree-structure;

Claims Paragraph Type 2 - CLPW:

means for transmitting the information service request;

Claims Paragraph Type 2 - CLPW:

means for receiving the information transmitted from the base station in response to the information service request;

Claims Paragraph Type 2 - CLPW:

means for storing the information being received; and

Claims Paragraph Type 2 - CLPW:

means for displaying the information.

Claims Paragraph Type 2 - CLPW:

processing means for processing information and information service requests, said processing

means further including a decoding means for decoding the information service requests;

Claims Paragraph Type 2 - CLPW:

memory means coupled to the processing means for storing access information relating to a subscription to at least a subset of the plurality of information service providers by each of the plurality of selective call receivers;

Claims Paragraph Type 2 - CLPW:

base station receiving means for receiving the information service requests from the plurality of selective call receivers and for receiving the information from the plurality of information service providers;

Claims Paragraph Type 2 - CLPW:

base station transmitting means coupled to the processing means for transmitting the information to the selective call receiver requesting same; and

Claims Paragraph Type 2 - CLPW:

portable transmitting means for transmitting the information service request to the base station at a first information rate over a radio communication channel indicating the information service provider from which the information is being requested;

Claims Paragraph Type 2 - CLPW:

portable processing means coupled to the portable transmitting means for processing the information service request, said processing means further including an encoding means for encoding the information service request in a codeword for identifying the information service provider from the subset of the information service providers from which information is being requested, said codeword comprises a plurality of bits organized in a frame for identifying the information service provider wherein access to the subset of the information service providers being subscribed to by the selective call receiver is organized in a hierarchy-tree-structure wherein the codeword has 2.times.N series of bits capable of providing access to N levels of the plurality of information files of the hierarchy-tree structure wherein every 2 bits of the 2.times.N series of bits provides access to a different level of the hierarchy-tree structure within the base station, and upon receipt of the codeword by the base station, the base station identifies the information service provider by decoding the plurality of bits indicating the hierarchy-tree-structure for determining the information service provider from which the information is being requested by the selective call receiver; and portable receiving means coupled to the processing means for receiving the information from the information service provider via the base station at a second information rate substantially higher than the first information rate.

US-PAT-NO: 5654886
DOCUMENT-IDENTIFIER: US 5654886 A
TITLE: Multimedia outdoor information system

US PAT NO. Derived - DWKU:

5654886

TITLE - TTL:

Multimedia outdoor information system

Abstract Paragraph Left - ABPL:

Multimedia presentations of outdoor information, such as weather information and ski reports, are provided on information transmission networks, such as Internet, on-line services and interactive TV. The outdoor information is compiled from a plurality of sources by electronically transmitting it to a presentation generator. The outdoor information is converted into presentation information for generating multimedia presentations. The presentation information is stored in a computer database that is accessible through the network. When a request is received from a user device connected to the network for selected outdoor information, the presentation information corresponding to the selected outdoor information is transmitted from the database to the user device through the information transmission network. A multimedia presentation is generated at the user device. The multimedia presentation may include a graphic display of a meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast. Other outdoor information, such as ski reports, road conditions and the like, may be selected.

Brief Summary Paragraph Right - BSPR:

This invention relates to computerized outdoor information systems and, more particularly, to multimedia outdoor information systems and methods wherein easily understood, user-friendly multimedia presentations are automatically generated from meteorologist's weather forecasts, weather data, ski reports, and the like. The multimedia presentations are made available on computer networks, such as Internet, on-line services, and other information transmission networks.

Brief Summary Paragraph Right - BSPR:

Recent communications technology has produced a new type of consumer--one that receives a significant portion of his or her mail and information electronically via the so-called "information superhighway". Organizations such as CompuServe, Prodigy and America On-Line currently link over six million users, via computer, to a wealth of information from stock reports to headline news and from travel information to weather forecasts. Even more impressive is the Internet, a worldwide array of interconnections allowing anyone with access not only to connect with anyone else, but to get information on virtually any subject 24 hours a day. Today Internet connects between 20 and 30 million users (about 50% commercial) and is growing at the surprising rate of 10% per month. In total there are currently 34,000 networks connected to one another worldwide. One estimate indicates that 100 million consumers will be tied directly or indirectly to Internet by 1998. A large percentage of personal computers sold today have high quality graphics and multimedia capability.

Brief Summary Paragraph Right - BSPR:

Various weather information is available on Internet and On-Line services. A TV station in Alabama provides an Internet weather report for one geographical location. The Internet report includes both audio and graphic information. A number of universities make weather maps and other weather data available on Internet. The information typically includes large quantities of weather data that may be meaningful to a meteorologist, but not to the average Internet user.

Brief Summary Paragraph Right - BSPR:

Accu-Weather, Inc. provides a dial-up service that includes weather information in the form of weather maps, satellite images, data and text. The information is apparently obtained from the National Weather Service and includes limited forecasts. Again, this service provides large quantities of weather data that may be meaningful to a meteorologist, but not to the average Internet user.

Brief Summary Paragraph Right - BSPR:

None of the known weather information services available on Internet or on-line services provide a simple, easily understood, user-friendly report of weather forecasts and other related outdoor information for different geographical locations. Nor do current weather information services take advantage of the multimedia capabilities of user machines by providing presentations that include graphics, text, animation and audio. An Internet user may wish to obtain a forecast of local weather conditions as an alternative to obtaining the forecast on television or radio. Furthermore, the Internet user may wish to obtain a simple, easily understood weather forecast or ski report for an area to which he is traveling, or simply as a matter of interest. Such presentations of outdoor information are not currently available.

Brief Summary Paragraph Right - BSPR:

According to a first aspect of the present invention, a weather information system and method are provided. The method comprises the steps of compiling weather information from a plurality of meteorologists in different geographical regions, converting the weather information from each of the meteorologists into presentation information for generating a multimedia weather presentation for each of the geographical regions, and storing the presentation information in a computer database that is accessible through an information transmission network. The weather information for each meteorologist includes weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast. A request is received from a user device connected to the information transmission network for selected weather information. In response to the request, the presentation information corresponding to the selected weather information is transmitted from the database to the user device through the information transmission network for generating the multimedia weather presentation. The multimedia weather presentation includes a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Brief Summary Paragraph Right - BSPR:

In a preferred embodiment, the information transmission network comprises a computer network, such as Internet or an on-line service. Alternatively, the information transmission network may comprise an interactive television network. The weather information from each of the meteorologists may be electronically transmitted to a presentation generator for conversion of the weather information into presentation information.

Brief Summary Paragraph Right - BSPR:

According to another aspect of the present invention, an outdoor information system and method are provided. Outdoor information from a plurality of sources is compiled by electronically transmitting the outdoor information from each of the sources to a presentation generator. The presentation generator converts the outdoor information from each of the sources into a presentation. Selected portions of the outdoor information are entered into a software presentation template representative of the presentation, and the completed presentation template is rendered into a digital representation of the presentation. The digital representation of the presentation is stored in a computer database that is accessible through an information transmission network. A request is received from a user device connected to the information transmission network for selected outdoor information. In response to the request, the digital representation of the presentation is transmitted from the database to the user device through the information transmission network for generating the presentation. The outdoor information may include weather information, ski reports, road conditions, and the like.

Drawing Description Paragraph Right - DRPR:

FIG. 1 is a block diagram of a multimedia outdoor information system in accordance with the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 5 is an example of an initial display screen, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 6 is an example of a display screen showing U.S. weather, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 7 is an example of a display screen showing forecasts for selected U.S. cities, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 8 is an example of a display screen showing a local weather forecast, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 9 is an example of a display screen showing ski report selections, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 10 is an example of a display screen showing a selected state ski report, provided by the multimedia outdoor information system of the present invention.

Detailed Description Paragraph Right - DEPR:

A block diagram of a multimedia outdoor information system in accordance with the present

invention is shown in FIG. 1. In general, the system collects outdoor related information from one or more sources of such information. The outdoor information includes weather information and may include such additional information as ski reports, road conditions, traffic conditions and the like. In the example of FIG. 1, the outdoor information sources include National Weather Service (NWS) data 10, images 12, such as radar maps and cloud images, meteorologist's forecasts 14 and ski reports 16. The outdoor information is supplied to a presentation generator 20. The presentation generator 20 comprises a computer system having a database for storing the outdoor information received from the various sources. In a preferred embodiment, the outdoor information from the various sources is electronically transmitted to the presentation generator 20 at specified intervals, such as twice daily, to insure that current outdoor information is available. The presentation generator 20 converts the outdoor information into one or more multimedia presentations that may be made available on Internet 22, on-line services 24, such as CompuServe, Prodigy and America On-Line, interactive TV 26, and any other computer network or information transmission network. The multimedia presentations may include various combinations of graphics, text, animation and audio, that are reproduced by a user machine, such as a multimedia computer, a computer terminal or an interactive television. The multimedia presentations are designed to be easily understood by a relatively unsophisticated user.

Detailed Description Paragraph Right - DEPR:

The meteorologist's forecasts 14 are obtained from different meteorologists in different geographical regions and different cities. The meteorologists are preferably TV meteorologists that are known to the public in a particular region or city. As described below, each meteorologist's forecast is used to produce a highly informative multimedia localized weather forecast presentation that is made available on Internet and other on-line services. For quality and a high degree of accuracy, the local forecasts utilize meteorologists that are known within the geographical region of the forecast area. By providing reports from local meteorologists, the multimedia presentations are given a personal touch and the user feels more comfortable with the report. The forecasts are preferably produced twice per day but may be produced several times per day and preferably are electronically transmitted to the presentation generator for conversion into a graphic format.

Detailed Description Paragraph Right - DEPR:

The procedure followed by the local meteorologist may be as follows. The local meteorologist prepares a weather forecast as part of his normal daily routine. The meteorologist then prepares the forecast information for transmission to the presentation generator 20 utilizing one of several methods. In a preferred method, the meteorologist uses a personal computer (PC) having specialized software for entering the forecast information. For example, the specialized software may generate a form for the required weather forecast information. The meteorologist enters the forecast information requested by the form. Such information typically includes forecast temperature ranges for a specified number of days and forecast weather conditions for each day of the forecast (for example, cloudy, sunny, rain, snow, etc.). In addition, the meteorologist records an oral forecast of specified length. The oral forecast is converted to a digital representation of the audio signal. Typically, the forecast is prepared for 3 to 5 days. After all information is entered, the meteorologist's PC uses a communication link to transmit the forecast information to the presentation generator 20 for storage and processing.

Detailed Description Paragraph Right - DEPR:

In an alternative method, meteorologists who do not have the specialized software described above can enter the weather forecast information into a computer capable of accessing the Internet. The information is electronically transmitted via e-mail to the presentation generator 20.

Detailed Description Paragraph Right - DEPR:

In yet another alternative, the meteorologist can complete a paper form that is sent by facsimile to the location of the presentation generator 20. Operators at the location of the presentation generator enter the required information into the presentation generator. The audio component of the meteorologist's forecast is handled by the meteorologist calling a voice mail facility at the presentation generator location. The audio message is captured and input to the presentation generator 20.

Detailed Description Paragraph Right - DEPR:

Other forms of outdoor information can be supplied to the presentation generator in a similar manner. A wide variety of National Weather Service data is available. That data includes basic weather data as well as forecasts for different geographical regions. Images, such as radar images and cloud maps, may be obtained from WSI Corporation of Billerica, Mass. Ski reports may be obtained from Snow Country Reports of Woodstock, Vt. In a manner similar to that described above, the ski reports are electronically transmitted to the presentation generator 20. As noted above, additional sources of outdoor information may include road conditions for different geographical regions and traffic conditions in urban areas.

Detailed Description Paragraph Right - DEPR:

A block diagram of the major components of the presentation generator is shown in FIG. 2. As indicated above, various outdoor information, including text and images, is transmitted to the presentation generator 20 at specified intervals. This information is stored in a database for use by the presentation generator. In general, the presentation generator operates by the use of presentation templates. A presentation template is a description of a particular multimedia presentation that may be made available by the system, for example, on Internet. The presentation is reproduced at a user computer, which preferably has multimedia capabilities. A presentation typically includes graphics and text that appear on the display screen of the user computer. In addition, some of the presentations include audio, such as a meteorologist's oral weather forecast. The graphic information may occupy a single display screen or may be sufficiently long to require scrolling at the user computer. In addition, the presentation may include animation, a series of video frames that give the impression of movement. Examples of presentations are shown in FIGS. 5-10. The presentation generator takes the required information obtained from the various sources and fills in each template. The completed template is then rendered into a presentation which may be available on Internet and other on-line services.

Detailed Description Paragraph Right - DEPR:

As shown in FIG. 2, a data requester 40 acquires the text, images and audio that are needed to build a particular presentation. An asset assembler 42 uses the data provided by the requester 40 to fill in the presentation templates. An asset database 44 contains presentation templates, graphics, such as icons that appear on the presentations, and advertising. A presentation renderer 46 transforms the completed template into one or a series of image frames. When animation or audio is used, a video builder 48 compresses the series of image frames provided by the presentation renderer 46 into industry standard video file formats. The output of the video builder 48 is a presentation file that is stored in a presentation database 50. When the presentation is a single graphic image frame, the presentation renderer 46 supplies the presentation file directly to the presentation database 50. The presentation database 50 is made available to a world wide web server 52 connected to the Internet. The presentation files in the presentation database are thereby available for access on Internet.

Detailed Description Paragraph Right - DEPR:

A more detailed block diagram of the requester and asset assembler is shown in FIG. 3. The data requester 40 (FIG. 2) may include a requester for each source of data. In the example of FIG. 3, an image requester 60 polls an image database 62 for imagery. A forecast requester 64 polls a forecast database 66 for meteorologist's forecast information. A text requester 68 polls a text database 70 for text data. As indicated above, the presentation generator uses templates for defining each multimedia presentation to be generated. An asset database 72 stores the various presentation templates used by an asset assembler 80 in generating the multimedia presentations. In addition, the asset database 72 holds icons, advertisements, and other graphics of a fixed nature that may be assembled into the presentations. Access to the asset database 72 is through a database manager 74. A presentation specification database 76 contains orders to build presentations. The presentation database 76 specifies that the system is to collect data and build specified presentations at certain times. For example, the system may generate multimedia presentations of each meteorologist's forecast twice daily.

Detailed Description Paragraph Right - DEPR:

The image requester 60 polls the image database 62 for imagery and passes the information to the asset assembler 80. The image requester 60 receives instructions that specify data type, data location and frequency of data collection. This module contains an image converter which converts the format of the imagery into a standard format. The converted data is sent to the asset assembler 80 with header information describing the data.

Detailed Description Paragraph Right - DEPR:

The text requester 68 polls the text database 70 for text data and passes it along to the asset assembler 80. The text requester 68 contains a poller which receives polling instructions from the asset assembler 80. Instructions to the text requester 68 specify data type, data location and frequency of data collection. This module contains a parser which parses text and extracts specific data. The extracted data is sent to the asset assembler 80 with header information describing the data.

Detailed Description Paragraph Right - DEPR:

The forecast requester 64 polls the forecast database 66 for meteorologist's forecast information as required to build a presentation. For example, the presentation may require the forecast high and low temperatures for specified days, as well as forecast weather conditions.

Detailed Description Paragraph Right - DEPR:

The information obtained by the requesters 60, 64 and 68 is sent to the asset assembler 80, which temporarily stores the data in a transient database 82. The transient database 82 holds the raw data needed to build presentations. The data includes radar satellite images, National Weather Service text, and meteorologist's forecast information.

Detailed Description Paragraph Right - DEPR:

A database manager 84 is an MS windows graphical user interface that allows users to make changes to the databases. The user may add, delete or change presentation specifications, add or remove data from the transient database 82 and add or remove assets from the asset database 72. Access to these databases is through the database manager 74.

Detailed Description Paragraph Right - DEPR:

The asset assembler 80 is the coordinator of the system. The asset assembler 80 contains a presentation specification reader, which extracts instructions for its own operation and instructions to be sent to the requesters. A coordinator collects and distributes data from the requesters. The coordinator also determines when all the data is available for a particular presentation. A resolver resolves the data into database references. The asset assembler 80 contains an assembler which assembles all of the pieces and parts that define a complete presentation. The presentation definition and the data header are sent to a renderer manager 90 (FIG. 4).

Detailed Description Paragraph Right - DEPR:

The requester and asset assembler shown in FIG. 3 operate as follows. Text, imagery and forecasts, and any other outdoor information are input to the databases 62, 66 and 70 as described above. The asset assembler 80 determines from the presentation specification database 76 that a particular presentation is to be built. The requesters 60, 64 and 68 extract the required information from the databases 62, 66 and 70 and transfer that information to the transient database 82. The asset assembler 80 can now build a presentation using the presentation template in asset database 72, the data stored in the transient database 82 and the graphic images and icons stored in asset database 72. Assume, for example, that the Boston weather forecast presentation shown in FIG. 8 is to be built. The presentation template specifies the format of the four-day forecast graphic and the placement of the icons and the advertisement on the four-day forecast graphic. The asset assembler 80 obtains the temperature range and the appropriate forecast icon 150 for each forecast day from the transient database 82 enters them into the four-day forecast graphic 140. The text summary 144 of the forecast is stored in the transient database 82 and may also be placed in a template. Then the fixed components of the presentation, such as advertisement 146, are obtained from the asset database 72 and are entered into the template. It will be understood that the information entered into the template is a reference to the appropriate database location for the required information. For example, the template may specify a location of the advertisement on the presentation and a database reference where a bit map of the advertisement is located. After the template is completely filled in, the asset assembler 80 sends the presentation description to the renderer manager 90.

Detailed Description Paragraph Right - DEPR:

The presentation renderer block diagram is shown in FIG. 4. The renderer manager 90 supplies template information to a renderer 92. In a preferred embodiment, the renderer 92 may contain several renderers which may operate in parallel on different presentations. The renderer 92 converts a template, or presentation description, into one or more image frames. The renderer manager 90 routes the presentation description to the least busy renderer or to a communication manager 94, which permits completed template information to be transmitted to other presentation generators. The renderer 92 operates in conjunction with a database 96 and a database manager 98.

Detailed Description Paragraph Right - DEPR:

The renderer 92 converts the completed templates into bit maps of graphic images. For example, with reference to FIG. 8, the renderer 92 compiles the bit map of the four-day forecast graphic 140 and the advertisement 146 of the presentation into a single bit map that represents the image to be displayed on the user's screen. In the case of a single frame presentation, the data is sent directly to a presentation manager 100. The presentation database manager 100 stores the final presentation in a presentation database 102. When the presentation contains animation or audio, the rendered presentation is supplied to one of several video builders for conversion and compression into industry standard format video files. A Video for Windows builder 104 obtains the presentation information from the renderer 92 and converts it to an AVI formatted movie file. A QuickTime builder 106 obtains the presentation information from the renderer 92 and converts it to a QTW formatted movie file. An MPEG builder 108 obtains the presentation information from the renderer 92 and converts it to an

MPG formatted movie file. In each case, the video builder passes the converted data to the presentation database manager 100 for storage in the presentation database 102.

Detailed Description Paragraph Right - DEPR:

The audio associated with the presentation, in digital format, is specified in the presentation template. Since the audio is not placed on a graphic image, it simply remains associated with the presentation template and, after rendering of the presentation, is stored with the other information for the presentation in the presentation database 102. When audio is associated with animation, the audio is supplied to one of the builders 104, 106 or 108. The video builder incorporates the audio into the converted information that is supplied to the presentation database manager 100.

Detailed Description Paragraph Right - DEPR:

The information in the presentation database 102 may then be made available for access on Internet, on-line services and other information transmission networks. In particular, with reference to Internet, the presentation information is made available through the World Wide Web of Internet. As known in the art, this is done by running on a computer connected to the Internet an HTTP daemon, which accesses the presentation database in response to user requests.

Detailed Description Paragraph Right - DEPR:

In use, an Internet user can access the presentation database through Internet. It will be understood that the presentation database will typically contain a large number of presentations for different geographical regions and cities and for different subjects such as weather, ski reports, road conditions, etc. Upon first accessing the outdoor information service, the user may see a screen display as shown in FIG. 5. A menu bar 120 includes a selection 122 for U.S. weather, a selection 124 for world weather and a selection 126 for ski reports. Additional menu selections may be added to access other outdoor information. One of the items is selected by pointing and clicking ("clicking") on the desired selection using a conventional pointing device, such as a mouse. Upon selecting U.S. weather, the presentation shown in FIG. 6 is obtained. A U.S. weather map 130 indicates temperatures and weather conditions for several major U.S. cities. The presentation may also include an image 132 of the meteorologist that supplied the information on the U.S. forecast map. The user can obtain a more detailed local weather forecast by clicking on one of the cities indicated on the U.S. map. Alternatively, the user may scroll to a tabulation 136 of forecasts for selected cities, as shown partially in FIG. 7. The tabulation 136 may provide, for example, forecast high and low temperatures and forecast weather conditions for several days for each listed city. The user may click on one of the listed cities in tabulation 136 to obtain more detailed local forecast information.

Detailed Description Paragraph Right - DEPR:

A typical local forecast presentation is shown in FIG. 8. The local forecast presentation may include several components, including four-day forecast graphic 140, image 142 of the meteorologist that provided the local forecast, text summary 144 of the local forecast, advertisement 146 and an audio reproduction (not shown) of the meteorologist's oral forecast. As described above, the meteorologist's oral forecast is transmitted by the meteorologist to the presentation system 20 and is compiled into a multimedia presentation for transmission on the Internet. Thus, users having a machine with multimedia capability, such as a multimedia computer, obtain a multimedia presentation of the local forecast information. The text summary 144 of the forecast is provided for users that do not have audio capability.

Detailed Description Paragraph Right - DEPR:

It will be understood that the presentations, such as the local weather forecast presentation shown in FIG. 8, can have a wide variety of formats. For example, the placements of the four-day forecast graphic 140, the image 142 of the meteorologist, the text summary 144 and the advertisement 146 can be varied to obtain a desired appearance. Furthermore, individual components of the presentation can be changed or omitted. For example, the four-day forecast graphic 140 may cover more or fewer days and may have a different format for each forecast day.

Detailed Description Paragraph Right - DEPR:

The multimedia presentations, such as the local weather forecast shown in FIG. 8, are designed to be user-friendly. That is, the information presented is relatively simple and easily understood by an unsophisticated user. In addition, the combination of the image 142 of the meteorologist, four-day forecast graphic 140 and the audio reproduction of the meteorologist's forecast give an impression that is similar to the meteorologist's forecast seen by users on local TV. Thus, the user will feel comfortable with the presentation format. This is contrasted with prior art weather information that is highly technical, and is designed for use by meteorologists.

Detailed Description Paragraph Right - DEPR:

By clicking on selection 126 of menu bar 120 (FIG. 5, FIG. 6 or FIG. 8), the user may obtain a ski report as shown in FIGS. 9 and 10. An initial presentation shown in FIG. 9 includes a U.S. map 160 that may be color coded to indicate different regions. A list 162 indicates states within each region where ski reports are available. By clicking on a state of interest, the user obtains a state ski report as shown in FIG, 10. The state ski report may include a table 164 that lists each ski area within the state and the ski conditions for each ski area. As in the case of weather forecasts, the ski report may include graphic representations of ski conditions, audio reproductions of oral ski reports and the like. In addition, by clicking on one of the listed ski areas, the user can obtain more detailed information regarding the selected ski area. Examples of such information include, for example, information regarding accommodations local to the ski area.

Detailed Description Paragraph Right - DEPR:

The outdoor information system has been described in connection with weather forecast information and ski reports. As noted above, the system may provide additional categories of outdoor information. Similar weather forecast information may be provided for foreign cites and countries. Additional information types may include road conditions, which may be of particular interest during winter storms, and traffic conditions in urban or other congested areas. The disclosed system permits users of Internet, on-line services and other computer and information transmission networks to obtain information of the type that is easily understood and is not available from other sources.

Claims Paragraph Right - CLPR:

1. A method for providing weather information, comprising the steps of:

Claims Paragraph Right - CLPR:

2. A method for providing weather information as defined in claim 1 wherein the information transmission network comprises a computer network and said user device comprises a multimedia computer.

Claims Paragraph Right - CLPR:

3. A method for providing weather information as defined in claim 1 wherein the information

transmission network comprises an interactive television network and said user device comprises an interactive television.

Claims Paragraph Right - CLPR:

4. A method for providing weather information as defined in claim 1 wherein the multimedia weather presentation further includes a graphic image of the meteorologist for the selected geographical region.

Claims Paragraph Right - CLPR:

5. A method for providing weather information as defined in claim 1 wherein the graphic display of the meteorologist's weather forecast includes a graphic representation of forecast temperature ranges for a predetermined forecast period.

Claims Paragraph Right - CLPR:

6. A method for providing weather information as defined in claim 5 wherein the graphic display of the meteorologist's weather forecast further includes an icon representative of the forecast weather condition for each day in the forecast period.

Claims Paragraph Right - CLPR:

7. A method for providing weather information as defined in claim 5 wherein the graphic representation of forecast temperature ranges includes, for each day in the forecast period, a symbol having a vertical height that is representative of forecast temperature range and a vertical position that is representative of forecast temperature.

Claims Paragraph Right - CLPR:

8. A method for providing weather information as defined in claim 1 wherein the step of compiling weather information from a plurality of meteorologists includes electronically transmitting said weather information from each of said meteorologists to a presentation generator for conversion of said weather information into said presentation information.

Claims Paragraph Right - CLPR:

9. A method for providing weather information as defined in claim 1 wherein the step of compiling weather information from a plurality of meteorologists includes each of said meteorologists completing a computer weather information form and electronically transmitting the weather information in said weather information form to a presentation generator for conversion of said weather information into said presentation information.

Claims Paragraph Right - CLPR:

10. A method for providing weather information as defined in claim 1 wherein the step of converting said weather information into presentation information includes providing a software presentation template representative of said multimedia weather presentation, entering selected portions of said weather information into said presentation template to provide a completed presentation template, and rendering the completed presentation template into a digital representation of said multimedia weather presentation.

Claims Paragraph Right - CLPR:

11. A method for providing weather information as defined in claim 1 wherein the multimedia weather presentation further includes animation comprising a series of related graphic display frames.

Claims Paragraph Right - CLPR:

12. A method for providing weather information on a computer network, comprising the steps of:

Claims Paragraph Right - CLPR:

13. A method for providing weather information as defined in claim 12 wherein the multimedia weather presentation further includes a graphic image of the meteorologist for the selected geographical region.

Claims Paragraph Right - CLPR:

14. A method for providing weather information as defined in claim 12 wherein the graphic display of the meteorologist's weather forecast includes a graphic representation of forecast temperature ranges for a predetermined forecast period.

Claims Paragraph Right - CLPR:

15. A method for providing weather information as defined in claim 14 wherein the graphic display of the meteorologist's weather forecast further includes an icon representative of the forecast weather condition for each day in the forecast period.

Claims Paragraph Right - CLPR:

16. A method for providing weather information as defined in claim 14 wherein the graphic representation of forecast temperature ranges includes, for each day in the forecast period, a symbol having a vertical height that is representative of forecast temperature range and a vertical position that is representative of forecast temperature.

Claims Paragraph Right - CLPR:

17. A method for providing weather information as defined in claim 12 wherein the step of compiling weather information from a plurality of meteorologists includes each of said meteorologists completing a computer weather information form, the information in said weather information form being electronically transmitted to said presentation generator.

Claims Paragraph Right - CLPR:

18. A method for providing weather information as defined in claim 12 wherein the step of converting said weather information into presentation information includes providing a presentation template representative of said multimedia weather presentation, entering selected portions of said weather information into said presentation template to provide a completed presentation template, and rendering the completed presentation template into a digital representation of said multimedia weather presentation.

Claims Paragraph Right - CLPR:

19. A method for providing weather information as defined in claim 12 wherein the multimedia weather presentation further includes animation comprising a series of related graphic display frames.

Claims Paragraph Right - CLPR:

20. A method for providing weather information as defined in claim 12 wherein the multimedia weather presentation further includes a text weather forecast for the benefit of users that do not have a multimedia computer.

Claims Paragraph Right - CLPR:

21. A method for providing outdoor information, comprising the steps of:

Claims Paragraph Right - CLPR:

22. A method for providing outdoor information as defined in claim 21 wherein the information transmission network comprises a computer network and said user device comprises a multimedia computer.

Claims Paragraph Right - CLPR:

23. A method for providing outdoor information as defined in claim 21 wherein the step of compiling outdoor information includes compiling weather information and ski reports.

Claims Paragraph Right - CLPR:

24. A system for providing weather information comprising:

Claims Paragraph Right - CLPR:

25. Apparatus for providing outdoor information comprising:

Claims Paragraph Type 1 - CLPV:

compiling weather information from a plurality of meteorologists in different geographical regions, said weather information including, for each meteorologist, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

converting said weather information from each of said meteorologists into presentation information for generating a multimedia weather presentation for each of said geographical regions;

Claims Paragraph Type 1 - CLPV:

storing said presentation information in a computer database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

receiving a request from a user device connected to the information transmission network for selected weather information; and

Claims Paragraph Type 1 - CLPV:

in response to said request, transmitting said presentation information corresponding to the selected weather information from said database to the user device through said information transmission network for generating said multimedia weather presentation, said multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Claims Paragraph Type 1 - CLPV:

compiling weather information from a plurality of meteorologists in different geographical regions by electronically transmitting said weather information from each of said meteorologists to a presentation generator, said weather information including, for each of said meteorologists, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

said presentation generator converting said weather information from each of said meteorologists into presentation information for generating a multimedia weather presentation for each of said geographical regions;

Claims Paragraph Type 1 - CLPV:

storing said presentation information in a computer database that is accessible through a computer network;

Claims Paragraph Type 1 - CLPV:

receiving a request from a user device connected to the computer network for said weather information for a selected geographical region; and

Claims Paragraph Type 1 - CLPV:

in response to said request, transmitting said presentation information for the selected geographical region from said database to the user device through said computer network for generating said multimedia weather presentation, said multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast for the selected geographical region.

Claims Paragraph Type 1 - CLPV:

compiling outdoor information from a plurality of sources by electronically transmitting said outdoor information from each of said sources to a presentation generator, the step of compiling outdoor information including compiling weather information from a plurality of meteorologists in different geographical regions, said weather information including, for each meteorologist, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

said presentation generator converting said outdoor information from each of said sources into a

presentation, including providing a software presentation template representative of said presentation, entering selected portions of said outdoor information into said presentation template to provide a completed presentation template, and rendering the completed presentation template into a digital representation of said presentation;

Claims Paragraph Type 1 - CLPV:

storing the digital representation of said presentation in a computer database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

receiving a request from a user device connected to the information transmission network for selected outdoor information; and

Claims Paragraph Type 1 - CLPV:

in response to said request transmitting the digital representation of said presentation from said database to the user device through said information transmission network for generating said presentation, said presentation comprising a multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Claims Paragraph Type 1 - CLPV:

means for compiling weather information from a plurality of meteorologists in different geographical regions by electronically receiving said weather information from each of said meteorologists, said weather information including, for each of said meteorologists, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

means for converting said weather information from each of said meteorologists into presentation information for generating a multimedia weather presentation for each of said geographical regions;

Claims Paragraph Type 1 - CLPV:

a database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

means for storing said presentation information in said computer database;

Claims Paragraph Type 1 - CLPV:

means for receiving a request from a user device connected to the information transmission network for selected weather information; and

Claims Paragraph Type 1 - CLPV:

means responsive to said request for transmitting said presentation information corresponding to

the selected weather information from said database to the user device through said information transmission network for generating said multimedia weather presentation, said multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Claims Paragraph Type 1 - CLPV:

means for compiling outdoor information from a plurality of sources, including means for electronically receiving said outdoor information from each of said sources, said means for compiling outdoor information including means for compiling weather information from a plurality of meteorologists in different geographical regions, said weather information including, for each meteorologist, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

means for converting said outdoor information from each of said sources into presentation information for generating a multimedia presentation of said outdoor information, including means for providing a presentation template representative of the multimedia presentation, means for entering selected portions of said outdoor information into said presentation template to provide a completed presentation template, and means for rendering the completed presentation template into a digital representation of said multimedia presentation;

Claims Paragraph Type 1 - CLPV:

a computer database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

means for receiving a request from a user device connected to the information transmission network for selected outdoor information; and

Claims Paragraph Type 1 - CLPV:

means responsive to said request for transmitting the digital representation of said multimedia presentation from said database to the user device through the said information transmission network for generating said multimedia presentation, said presentation comprising a multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Other Reference Publication - ORPL:

Olsen, "Internet Opens World of Weather; Weather Service Develops Programming for Access to its Servers" Government Computer News, v. 13, N. 19, p. 58.

US-PAT-NO: 5654886
DOCUMENT-IDENTIFIER: US 5654886 A
TITLE: Multimedia outdoor information system

US PAT NO. Derived - DWKU:

5654886

TITLE - TTL:

Multimedia outdoor information system

Abstract Paragraph Left - ABPL:

Multimedia presentations of outdoor information, such as weather information and ski reports, are provided on information transmission networks, such as Internet, on-line services and interactive TV. The outdoor information is compiled from a plurality of sources by electronically transmitting it to a presentation generator. The outdoor information is converted into presentation information for generating multimedia presentations. The presentation information is stored in a computer database that is accessible through the network. When a request is received from a user device connected to the network for selected outdoor information, the presentation information corresponding to the selected outdoor information is transmitted from the database to the user device through the information transmission network. A multimedia presentation is generated at the user device. The multimedia presentation may include a graphic display of a meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast. Other outdoor information, such as ski reports, road conditions and the like, may be selected.

Brief Summary Paragraph Right - BSPR:

This invention relates to computerized outdoor information systems and, more particularly, to multimedia outdoor information systems and methods wherein easily understood, user-friendly multimedia presentations are automatically generated from meteorologist's weather forecasts, weather data, ski reports, and the like. The multimedia presentations are made available on computer networks, such as Internet, on-line services, and other information transmission networks.

Brief Summary Paragraph Right - BSPR:

Recent communications technology has produced a new type of consumer--one that receives a significant portion of his or her mail and information electronically via the so-called "information superhighway". Organizations such as CompuServe, Prodigy and America On-Line currently link over six million users, via computer, to a wealth of information from stock reports to headline news and from travel information to weather forecasts. Even more impressive is the Internet, a worldwide array of interconnections allowing anyone with access not only to connect with anyone else, but to get information on virtually any subject 24 hours a day. Today Internet connects between 20 and 30 million users (about 50% commercial) and is growing at the surprising rate of 10% per month. In total there are currently 34,000 networks connected to one another worldwide. One estimate indicates that 100 million consumers will be tied directly or indirectly to Internet by 1998. A large percentage of personal computers sold today have high quality graphics and multimedia capability.

Brief Summary Paragraph Right - BSPR:

Various weather information is available on Internet and On-Line services. A TV station in Alabama provides an Internet weather report for one geographical location. The Internet report includes both audio and graphic information. A number of universities make weather maps and other weather data available on Internet. The information typically includes large quantities of weather data that may be meaningful to a meteorologist, but not to the average Internet user.

Brief Summary Paragraph Right - BSPR:

Accu-Weather, Inc. provides a dial-up service that includes weather information in the form of weather maps, satellite images, data and text. The information is apparently obtained from the National Weather Service and includes limited forecasts. Again, this service provides large quantities of weather data that may be meaningful to a meteorologist, but not to the average Internet user.

Brief Summary Paragraph Right - BSPR:

None of the known weather information services available on Internet or on-line services provide a simple, easily understood, user-friendly report of weather forecasts and other related outdoor information for different geographical locations. Nor do current weather information services take advantage of the multimedia capabilities of user machines by providing presentations that include graphics, text, animation and audio. An Internet user may wish to obtain a forecast of local weather conditions as an alternative to obtaining the forecast on television or radio. Furthermore, the Internet user may wish to obtain a simple, easily understood weather forecast or ski report for an area to which he is traveling, or simply as a matter of interest. Such presentations of outdoor information are not currently available.

Brief Summary Paragraph Right - BSPR:

According to a first aspect of the present invention, a weather information system and method are provided. The method comprises the steps of compiling weather information from a plurality of meteorologists in different geographical regions, converting the weather information from each of the meteorologists into presentation information for generating a multimedia weather presentation for each of the geographical regions, and storing the presentation information in a computer database that is accessible through an information transmission network. The weather information for each meteorologist includes weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast. A request is received from a user device connected to the information transmission network for selected weather information. In response to the request, the presentation information corresponding to the selected weather information is transmitted from the database to the user device through the information transmission network for generating the multimedia weather presentation. The multimedia weather presentation includes a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Brief Summary Paragraph Right - BSPR:

In a preferred embodiment, the information transmission network comprises a computer network, such as Internet or an on-line service. Alternatively, the information transmission network may comprise an interactive television network. The weather information from each of the meteorologists may be electronically transmitted to a presentation generator for conversion of the weather information into presentation information.

Brief Summary Paragraph Right - BSPR:

According to another aspect of the present invention, an outdoor information system and method are provided. Outdoor information from a plurality of sources is compiled by electronically transmitting the outdoor information from each of the sources to a presentation generator. The presentation generator converts the outdoor information from each of the sources into a presentation. Selected portions of the outdoor information are entered into a software presentation template representative of the presentation, and the completed presentation template is rendered into a digital representation of the presentation. The digital representation of the presentation is stored in a computer database that is accessible through an information transmission network. A request is received from a user device connected to the information transmission network for selected outdoor information. In response to the request, the digital representation of the presentation is transmitted from the database to the user device through the information transmission network for generating the presentation. The outdoor information may include weather information, ski reports, road conditions, and the like.

Drawing Description Paragraph Right - DRPR:

FIG. 1 is a block diagram of a multimedia outdoor information system in accordance with the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 5 is an example of an initial display screen, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 6 is an example of a display screen showing U.S. weather, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 7 is an example of a display screen showing forecasts for selected U.S. cities, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 8 is an example of a display screen showing a local weather forecast, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 9 is an example of a display screen showing ski report selections, provided by the multimedia outdoor information system of the present invention;

Drawing Description Paragraph Right - DRPR:

FIG. 10 is an example of a display screen showing a selected state ski report, provided by the multimedia outdoor information system of the present invention.

Detailed Description Paragraph Right - DEPR:

A block diagram of a multimedia outdoor information system in accordance with the present

invention is shown in FIG. 1. In general, the system collects outdoor related information from one or more sources of such information. The outdoor information includes weather information and may include such additional information as ski reports, road conditions, traffic conditions and the like. In the example of FIG. 1, the outdoor information sources include National Weather Service (NWS) data 10, images 12, such as radar maps and cloud images, meteorologist's forecasts 14 and ski reports 16. The outdoor information is supplied to a presentation generator 20. The presentation generator 20 comprises a computer system having a database for storing the outdoor information received from the various sources. In a preferred embodiment, the outdoor information from the various sources is electronically transmitted to the presentation generator 20 at specified intervals, such as twice daily, to insure that current outdoor information is available. The presentation generator 20 converts the outdoor information into one or more multimedia presentations that may be made available on Internet 22, on-line services 24, such as CompuServe, Prodigy and America On-Line, interactive TV 26, and any other computer network or information transmission network. The multimedia presentations may include various combinations of graphics, text, animation and audio, that are reproduced by a user machine, such as a multimedia computer, a computer terminal or an interactive television. The multimedia presentations are designed to be easily understood by a relatively unsophisticated user.

Detailed Description Paragraph Right - DEPR:

The meteorologist's forecasts 14 are obtained from different meteorologists in different geographical regions and different cities. The meteorologists are preferably TV meteorologists that are known to the public in a particular region or city. As described below, each meteorologist's forecast is used to produce a highly informative multimedia localized weather forecast presentation that is made available on Internet and other on-line services. For quality and a high degree of accuracy, the local forecasts utilize meteorologists that are known within the geographical region of the forecast area. By providing reports from local meteorologists, the multimedia presentations are given a personal touch and the user feels more comfortable with the report. The forecasts are preferably produced twice per day but may be produced several times per day and preferably are electronically transmitted to the presentation generator for conversion into a graphic format.

Detailed Description Paragraph Right - DEPR:

The procedure followed by the local meteorologist may be as follows. The local meteorologist prepares a weather forecast as part of his normal daily routine. The meteorologist then prepares the forecast information for transmission to the presentation generator 20 utilizing one of several methods. In a preferred method, the meteorologist uses a personal computer (PC) having specialized software for entering the forecast information. For example, the specialized software may generate a form for the required weather forecast information. The meteorologist enters the forecast information requested by the form. Such information typically includes forecast temperature ranges for a specified number of days and forecast weather conditions for each day of the forecast (for example, cloudy, sunny, rain, snow, etc.). In addition, the meteorologist records an oral forecast of specified length. The oral forecast is converted to a digital representation of the audio signal. Typically, the forecast is prepared for 3 to 5 days. After all information is entered, the meteorologist's PC uses a communication link to transmit the forecast information to the presentation generator 20 for storage and processing.

Detailed Description Paragraph Right - DEPR:

In an alternative method, meteorologists who do not have the specialized software described above can enter the weather forecast information into a computer capable of accessing the Internet. The information is electronically transmitted via e-mail to the presentation generator 20.

Detailed Description Paragraph Right - DEPR:

In yet another alternative, the meteorologist can complete a paper form that is sent by facsimile to the location of the presentation generator 20. Operators at the location of the presentation generator enter the required information into the presentation generator. The audio component of the meteorologist's forecast is handled by the meteorologist calling a voice mail facility at the presentation generator location. The audio message is captured and input to the presentation generator 20.

Detailed Description Paragraph Right - DEPR:

Other forms of outdoor information can be supplied to the presentation generator in a similar manner. A wide variety of National Weather Service data is available. That data includes basic weather data as well as forecasts for different geographical regions. Images, such as radar images and cloud maps, may be obtained from WSI Corporation of Billerica, Mass. Ski reports may be obtained from Snow Country Reports of Woodstock, Vt. In a manner similar to that described above, the ski reports are electronically transmitted to the presentation generator 20. As noted above, additional sources of outdoor information may include road conditions for different geographical regions and traffic conditions in urban areas.

Detailed Description Paragraph Right - DEPR:

A block diagram of the major components of the presentation generator is shown in FIG. 2. As indicated above, various outdoor information, including text and images, is transmitted to the presentation generator 20 at specified intervals. This information is stored in a database for use by the presentation generator. In general, the presentation generator operates by the use of presentation templates. A presentation template is a description of a particular multimedia presentation that may be made available by the system, for example, on Internet. The presentation is reproduced at a user computer, which preferably has multimedia capabilities. A presentation typically includes graphics and text that appear on the display screen of the user computer. In addition, some of the presentations include audio, such as a meteorologist's oral weather forecast. The graphic information may occupy a single display screen or may be sufficiently long to require scrolling at the user computer. In addition, the presentation may include animation, a series of video frames that give the impression of movement. Examples of presentations are shown in FIGS. 5-10. The presentation generator takes the required information obtained from the various sources and fills in each template. The completed template is then rendered into a presentation which may be available on Internet and other on-line services.

Detailed Description Paragraph Right - DEPR:

As shown in FIG. 2, a data requester 40 acquires the text, images and audio that are needed to build a particular presentation. An asset assembler 42 uses the data provided by the requester 40 to fill in the presentation templates. An asset database 44 contains presentation templates, graphics, such as icons that appear on the presentations, and advertising. A presentation renderer 46 transforms the completed template into one or a series of image frames. When animation or audio is used, a video builder 48 compresses the series of image frames provided by the presentation renderer 46 into industry standard video file formats. The output of the video builder 48 is a presentation file that is stored in a presentation database 50. When the presentation is a single graphic image frame, the presentation renderer 46 supplies the presentation file directly to the presentation database 50. The presentation database 50 is made available to a world wide web server 52 connected to the Internet. The presentation files in the presentation database are thereby available for access on Internet.

Detailed Description Paragraph Right - DEPR:

A more detailed block diagram of the requester and asset assembler is shown in FIG. 3. The data requester 40 (FIG. 2) may include a requester for each source of data. In the example of FIG. 3, an image requester 60 polls an image database 62 for imagery. A forecast requester 64 polls a forecast database 66 for meteorologist's forecast information. A text requester 68 polls a text database 70 for text data. As indicated above, the presentation generator uses templates for defining each multimedia presentation to be generated. An asset database 72 stores the various presentation templates used by an asset assembler 80 in generating the multimedia presentations. In addition, the asset database 72 holds icons, advertisements, and other graphics of a fixed nature that may be assembled into the presentations. Access to the asset database 72 is through a database manager 74. A presentation specification database 76 contains orders to build presentations. The presentation database 76 specifies that the system is to collect data and build specified presentations at certain times. For example, the system may generate multimedia presentations of each meteorologist's forecast twice daily.

Detailed Description Paragraph Right - DEPR:

The image requester 60 polls the image database 62 for imagery and passes the information to the asset assembler 80. The image requester 60 receives instructions that specify data type, data location and frequency of data collection. This module contains an image converter which converts the format of the imagery into a standard format. The converted data is sent to the asset assembler 80 with header information describing the data.

Detailed Description Paragraph Right - DEPR:

The text requester 68 polls the text database 70 for text data and passes it along to the asset assembler 80. The text requester 68 contains a poller which receives polling instructions from the asset assembler 80. Instructions to the text requester 68 specify data type, data location and frequency of data collection. This module contains a parser which parses text and extracts specific data. The extracted data is sent to the asset assembler 80 with header information describing the data.

Detailed Description Paragraph Right - DEPR:

The forecast requester 64 polls the forecast database 66 for meteorologist's forecast information as required to build a presentation. For example, the presentation may require the forecast high and low temperatures for specified days, as well as forecast weather conditions.

Detailed Description Paragraph Right - DEPR:

The information obtained by the requesters 60, 64 and 68 is sent to the asset assembler 80, which temporarily stores the data in a transient database 82. The transient database 82 holds the raw data needed to build presentations. The data includes radar satellite images, National Weather Service text, and meteorologist's forecast information.

Detailed Description Paragraph Right - DEPR:

A database manager 84 is an MS windows graphical user interface that allows users to make changes to the databases. The user may add, delete or change presentation specifications, add or remove data from the transient database 82 and add or remove assets from the asset database 72. Access to these databases is through the database manager 74.

Detailed Description Paragraph Right - DEPR:

The asset assembler 80 is the coordinator of the system. The asset assembler 80 contains a presentation specification reader, which extracts instructions for its own operation and instructions to be sent to the requesters. A coordinator collects and distributes data from the requesters. The coordinator also determines when all the data is available for a particular presentation. A resolver resolves the data into database references. The asset assembler 80 contains an assembler which assembles all of the pieces and parts that define a complete presentation. The presentation definition and the data header are sent to a renderer manager 90 (FIG. 4).

Detailed Description Paragraph Right - DEPR:

The requester and asset assembler shown in FIG. 3 operate as follows. Text, imagery and forecasts, and any other outdoor information are input to the databases 62, 66 and 70 as described above. The asset assembler 80 determines from the presentation specification database 76 that a particular presentation is to be built. The requesters 60, 64 and 68 extract the required information from the databases 62, 66 and 70 and transfer that information to the transient database 82. The asset assembler 80 can now build a presentation using the presentation template in asset database 72, the data stored in the transient database 82 and the graphic images and icons stored in asset database 72. Assume, for example, that the Boston weather forecast presentation shown in FIG. 8 is to be built. The presentation template specifies the format of the four-day forecast graphic and the placement of the icons and the advertisement on the four-day forecast graphic. The asset assembler 80 obtains the temperature range and the appropriate forecast icon 150 for each forecast day from the transient database 82 enters them into the four-day forecast graphic 140. The text summary 144 of the forecast is stored in the transient database 82 and may also be placed in a template. Then the fixed components of the presentation, such as advertisement 146, are obtained from the asset database 72 and are entered into the template. It will be understood that the information entered into the template is a reference to the appropriate database location for the required information. For example, the template may specify a location of the advertisement on the presentation and a database reference where a bit map of the advertisement is located. After the template is completely filled in, the asset assembler 80 sends the presentation description to the renderer manager 90.

Detailed Description Paragraph Right - DEPR:

The presentation renderer block diagram is shown in FIG. 4. The renderer manager 90 supplies template information to a renderer 92. In a preferred embodiment, the renderer 92 may contain several renderers which may operate in parallel on different presentations. The renderer 92 converts a template, or presentation description, into one or more image frames. The renderer manager 90 routes the presentation description to the least busy renderer or to a communication manager 94, which permits completed template information to be transmitted to other presentation generators. The renderer 92 operates in conjunction with a database 96 and a database manager 98.

Detailed Description Paragraph Right - DEPR:

The renderer 92 converts the completed templates into bit maps of graphic images. For example, with reference to FIG. 8, the renderer 92 compiles the bit map of the four-day forecast graphic 140 and the advertisement 146 of the presentation into a single bit map that represents the image to be displayed on the user's screen. In the case of a single frame presentation, the data is sent directly to a presentation manager 100. The presentation database manager 100 stores the final presentation in a presentation database 102. When the presentation contains animation or audio, the rendered presentation is supplied to one of several video builders for conversion and compression into industry standard format video files. A Video for Windows builder 104 obtains the presentation information from the renderer 92 and converts it to an AVI formatted movie file. A QuickTime builder 106 obtains the presentation information from the renderer 92 and converts it to a QTW formatted movie file. An MPEG builder 108 obtains the presentation information from the renderer 92 and converts it to an

MPG formatted movie file. In each case, the video builder passes the converted data to the presentation database manager 100 for storage in the presentation database 102.

Detailed Description Paragraph Right - DEPR:

The audio associated with the presentation, in digital format, is specified in the presentation template. Since the audio is not placed on a graphic image, it simply remains associated with the presentation template and, after rendering of the presentation, is stored with the other information for the presentation in the presentation database 102. When audio is associated with animation, the audio is supplied to one of the builders 104, 106 or 108. The video builder incorporates the audio into the converted information that is supplied to the presentation database manager 100.

Detailed Description Paragraph Right - DEPR:

The information in the presentation database 102 may then be made available for access on Internet, on-line services and other information transmission networks. In particular, with reference to Internet, the presentation information is made available through the World Wide Web of Internet. As known in the art, this is done by running on a computer connected to the Internet an HTTP daemon, which accesses the presentation database in response to user requests.

Detailed Description Paragraph Right - DEPR:

In use, an Internet user can access the presentation database through Internet. It will be understood that the presentation database will typically contain a large number of presentations for different geographical regions and cities and for different subjects such as weather, ski reports, road conditions, etc. Upon first accessing the outdoor information service, the user may see a screen display as shown in FIG. 5. A menu bar 120 includes a selection 122 for U.S. weather, a selection 124 for world weather and a selection 126 for ski reports. Additional menu selections may be added to access other outdoor information. One of the items is selected by pointing and clicking ("clicking") on the desired selection using a conventional pointing device, such as a mouse. Upon selecting U.S. weather, the presentation shown in FIG. 6 is obtained. A U.S. weather map 130 indicates temperatures and weather conditions for several major U.S. cities. The presentation may also include an image 132 of the meteorologist that supplied the information on the U.S. forecast map. The user can obtain a more detailed local weather forecast by clicking on one of the cities indicated on the U.S. map. Alternatively, the user may scroll to a tabulation 136 of forecasts for selected cities, as shown partially in FIG. 7. The tabulation 136 may provide, for example, forecast high and low temperatures and forecast weather conditions for several days for each listed city. The user may click on one of the listed cities in tabulation 136 to obtain more detailed local forecast information.

Detailed Description Paragraph Right - DEPR:

A typical local forecast presentation is shown in FIG. 8. The local forecast presentation may include several components, including four-day forecast graphic 140, image 142 of the meteorologist that provided the local forecast, text summary 144 of the local forecast, advertisement 146 and an audio reproduction (not shown) of the meteorologist's oral forecast. As described above, the meteorologist's oral forecast is transmitted by the meteorologist to the presentation system 20 and is compiled into a multimedia presentation for transmission on the Internet. Thus, users having a machine with multimedia capability, such as a multimedia computer, obtain a multimedia presentation of the local forecast information. The text summary 144 of the forecast is provided for users that do not have audio capability.

Detailed Description Paragraph Right - DEPR:

It will be understood that the presentations, such as the local weather forecast presentation shown in FIG. 8, can have a wide variety of formats. For example, the placements of the four-day forecast graphic 140, the image 142 of the meteorologist, the text summary 144 and the advertisement 146 can be varied to obtain a desired appearance. Furthermore, individual components of the presentation can be changed or omitted. For example, the four-day forecast graphic 140 may cover more or fewer days and may have a different format for each forecast day.

Detailed Description Paragraph Right - DEPR:

The multimedia presentations, such as the local weather forecast shown in FIG. 8, are designed to be user-friendly. That is, the information presented is relatively simple and easily understood by an unsophisticated user. In addition, the combination of the image 142 of the meteorologist, four-day forecast graphic 140 and the audio reproduction of the meteorologist's forecast give an impression that is similar to the meteorologist's forecast seen by users on local TV. Thus, the user will feel comfortable with the presentation format. This is contrasted with prior art weather information that is highly technical, and is designed for use by meteorologists.

Detailed Description Paragraph Right - DEPR:

By clicking on selection 126 of menu bar 120 (FIG. 5, FIG. 6 or FIG. 8), the user may obtain a ski report as shown in FIGS. 9 and 10. An initial presentation shown in FIG. 9 includes a U.S. map 160 that may be color coded to indicate different regions. A list 162 indicates states within each region where ski reports are available. By clicking on a state of interest, the user obtains a state ski report as shown in FIG, 10. The state ski report may include a table 164 that lists each ski area within the state and the ski conditions for each ski area. As in the case of weather forecasts, the ski report may include graphic representations of ski conditions, audio reproductions of oral ski reports and the like. In addition, by clicking on one of the listed ski areas, the user can obtain more detailed information regarding the selected ski area. Examples of such information include, for example, information regarding accommodations local to the ski area.

Detailed Description Paragraph Right - DEPR:

The outdoor information system has been described in connection with weather forecast information and ski reports. As noted above, the system may provide additional categories of outdoor information. Similar weather forecast information may be provided for foreign cites and countries. Additional information types may include road conditions, which may be of particular interest during winter storms, and traffic conditions in urban or other congested areas. The disclosed system permits users of Internet, on-line services and other computer and information transmission networks to obtain information of the type that is easily understood and is not available from other sources.

Claims Paragraph Right - CLPR:

1. A method for providing weather information, comprising the steps of:

Claims Paragraph Right - CLPR:

2. A method for providing weather information as defined in claim 1 wherein the information transmission network comprises a computer network and said user device comprises a multimedia computer.

Claims Paragraph Right - CLPR:

3. A method for providing weather information as defined in claim 1 wherein the information

transmission network comprises an interactive television network and said user device comprises an interactive television.

Claims Paragraph Right - CLPR:

4. A method for providing weather information as defined in claim 1 wherein the multimedia weather presentation further includes a graphic image of the meteorologist for the selected geographical region.

Claims Paragraph Right - CLPR:

5. A method for providing weather information as defined in claim 1 wherein the graphic display of the meteorologist's weather forecast includes a graphic representation of forecast temperature ranges for a predetermined forecast period.

Claims Paragraph Right - CLPR:

6. A method for providing weather information as defined in claim 5 wherein the graphic display of the meteorologist's weather forecast further includes an icon representative of the forecast weather condition for each day in the forecast period.

Claims Paragraph Right - CLPR:

7. A method for providing weather information as defined in claim 5 wherein the graphic representation of forecast temperature ranges includes, for each day in the forecast period, a symbol having a vertical height that is representative of forecast temperature range and a vertical position that is representative of forecast temperature.

Claims Paragraph Right - CLPR:

8. A method for providing weather information as defined in claim 1 wherein the step of compiling weather information from a plurality of meteorologists includes electronically transmitting said weather information from each of said meteorologists to a presentation generator for conversion of said weather information into said presentation information.

Claims Paragraph Right - CLPR:

9. A method for providing weather information as defined in claim 1 wherein the step of compiling weather information from a plurality of meteorologists includes each of said meteorologists completing a computer weather information form and electronically transmitting the weather information in said weather information form to a presentation generator for conversion of said weather information into said presentation information.

Claims Paragraph Right - CLPR:

10. A method for providing weather information as defined in claim 1 wherein the step of converting said weather information into presentation information includes providing a software presentation template representative of said multimedia weather presentation, entering selected portions of said weather information into said presentation template to provide a completed presentation template, and rendering the completed presentation template into a digital representation of said multimedia weather presentation.

Claims Paragraph Right - CLPR:

11. A method for providing weather information as defined in claim 1 wherein the multimedia weather presentation further includes animation comprising a series of related graphic display frames.

Claims Paragraph Right - CLPR:

12. A method for providing weather information on a computer network, comprising the steps of:

Claims Paragraph Right - CLPR:

13. A method for providing weather information as defined in claim 12 wherein the multimedia weather presentation further includes a graphic image of the meteorologist for the selected geographical region.

Claims Paragraph Right - CLPR:

14. A method for providing weather information as defined in claim 12 wherein the graphic display of the meteorologist's weather forecast includes a graphic representation of forecast temperature ranges for a predetermined forecast period.

Claims Paragraph Right - CLPR:

15. A method for providing weather information as defined in claim 14 wherein the graphic display of the meteorologist's weather forecast further includes an icon representative of the forecast weather condition for each day in the forecast period.

Claims Paragraph Right - CLPR:

16. A method for providing weather information as defined in claim 14 wherein the graphic representation of forecast temperature ranges includes, for each day in the forecast period, a symbol having a vertical height that is representative of forecast temperature range and a vertical position that is representative of forecast temperature.

Claims Paragraph Right - CLPR:

17. A method for providing weather information as defined in claim 12 wherein the step of compiling weather information from a plurality of meteorologists includes each of said meteorologists completing a computer weather information form, the information in said weather information form being electronically transmitted to said presentation generator.

Claims Paragraph Right - CLPR:

18. A method for providing weather information as defined in claim 12 wherein the step of converting said weather information into presentation information includes providing a presentation template representative of said multimedia weather presentation, entering selected portions of said weather information into said presentation template to provide a completed presentation template, and rendering the completed presentation template into a digital representation of said multimedia weather presentation.

Claims Paragraph Right - CLPR:

19. A method for providing weather information as defined in claim 12 wherein the multimedia weather presentation further includes animation comprising a series of related graphic display frames.

Claims Paragraph Right - CLPR:

20. A method for providing weather information as defined in claim 12 wherein the multimedia weather presentation further includes a text weather forecast for the benefit of users that do not have a multimedia computer.

Claims Paragraph Right - CLPR:

21. A method for providing outdoor information, comprising the steps of:

Claims Paragraph Right - CLPR:

22. A method for providing outdoor information as defined in claim 21 wherein the information transmission network comprises a computer network and said user device comprises a multimedia computer.

Claims Paragraph Right - CLPR:

23. A method for providing outdoor information as defined in claim 21 wherein the step of compiling outdoor information includes compiling weather information and ski reports.

Claims Paragraph Right - CLPR:

24. A system for providing weather information comprising:

Claims Paragraph Right - CLPR:

25. Apparatus for providing outdoor information comprising:

Claims Paragraph Type 1 - CLPV:

compiling weather information from a plurality of meteorologists in different geographical regions, said weather information including, for each meteorologist, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

converting said weather information from each of said meteorologists into presentation information for generating a multimedia weather presentation for each of said geographical regions;

Claims Paragraph Type 1 - CLPV:

storing said presentation information in a computer database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

receiving a request from a user device connected to the information transmission network for selected weather information; and

Claims Paragraph Type 1 - CLPV:

in response to said request, transmitting said presentation information corresponding to the selected weather information from said database to the user device through said information transmission network for generating said multimedia weather presentation, said multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Claims Paragraph Type 1 - CLPV:

compiling weather information from a plurality of meteorologists in different geographical regions by electronically transmitting said weather information from each of said meteorologists to a presentation generator, said weather information including, for each of said meteorologists, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

said presentation generator converting said weather information from each of said meteorologists into presentation information for generating a multimedia weather presentation for each of said geographical regions;

Claims Paragraph Type 1 - CLPV:

storing said presentation information in a computer database that is accessible through a computer network;

Claims Paragraph Type 1 - CLPV:

receiving a request from a user device connected to the computer network for said weather information for a selected geographical region; and

Claims Paragraph Type 1 - CLPV:

in response to said request, transmitting said presentation information for the selected geographical region from said database to the user device through said computer network for generating said multimedia weather presentation, said multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast for the selected geographical region.

Claims Paragraph Type 1 - CLPV:

compiling outdoor information from a plurality of sources by electronically transmitting said outdoor information from each of said sources to a presentation generator, the step of compiling outdoor information including compiling weather information from a plurality of meteorologists in different geographical regions, said weather information including, for each meteorologist, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

said presentation generator converting said outdoor information from each of said sources into a

presentation, including providing a software presentation template representative of said presentation, entering selected portions of said outdoor information into said presentation template to provide a completed presentation template, and rendering the completed presentation template into a digital representation of said presentation;

Claims Paragraph Type 1 - CLPV:

storing the digital representation of said presentation in a computer database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

receiving a request from a user device connected to the information transmission network for selected outdoor information; and

Claims Paragraph Type 1 - CLPV:

in response to said request transmitting the digital representation of said presentation from said database to the user device through said information transmission network for generating said presentation, said presentation comprising a multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Claims Paragraph Type 1 - CLPV:

means for compiling weather information from a plurality of meteorologists in different geographical regions by electronically receiving said weather information from each of said meteorologists, said weather information including, for each of said meteorologists, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

means for converting said weather information from each of said meteorologists into presentation information for generating a multimedia weather presentation for each of said geographical regions;

Claims Paragraph Type 1 - CLPV:

a database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

means for storing said presentation information in said computer database;

Claims Paragraph Type 1 - CLPV:

means for receiving a request from a user device connected to the information transmission network for selected weather information; and

Claims Paragraph Type 1 - CLPV:

means responsive to said request for transmitting said presentation information corresponding to

the selected weather information from said database to the user device through said information transmission network for generating said multimedia weather presentation, said multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Claims Paragraph Type 1 - CLPV:

means for compiling outdoor information from a plurality of sources, including means for electronically receiving said outdoor information from each of said sources, said means for compiling outdoor information including means for compiling weather information from a plurality of meteorologists in different geographical regions, said weather information including, for each meteorologist, weather forecast information generated by the meteorologist and an audio representation of the meteorologist's oral weather forecast;

Claims Paragraph Type 1 - CLPV:

means for converting said outdoor information from each of said sources into presentation information for generating a multimedia presentation of said outdoor information, including means for providing a presentation template representative of the multimedia presentation, means for entering selected portions of said outdoor information into said presentation template to provide a completed presentation template, and means for rendering the completed presentation template into a digital representation of said multimedia presentation;

Claims Paragraph Type 1 - CLPV:

a computer database that is accessible through an information transmission network;

Claims Paragraph Type 1 - CLPV:

means for receiving a request from a user device connected to the information transmission network for selected outdoor information; and

Claims Paragraph Type 1 - CLPV:

means responsive to said request for transmitting the digital representation of said multimedia presentation from said database to the user device through the said information transmission network for generating said multimedia presentation, said presentation comprising a multimedia weather presentation including a graphic display of the meteorologist's weather forecast and an audio reproduction of the meteorologist's oral weather forecast.

Other Reference Publication - ORPL:

Olsen, "Internet Opens World of Weather; Weather Service Develops Programming for Access to its Servers" Government Computer News, v. 13, N. 19, p. 58.

L Number	Hits	Search Text	DB	Time stamp
1	0	5555446.pn. and grid$3	USPAT; US-PGPUB	2002/06/11 11:43
2	0	5654886.pn. and grid$3	USPAT; US-PGPUB	2002/06/11 11:43
3	1	5796945.pn. and grid$3	USPAT; US-PGPUB	2002/06/11 11:44
4	0	6137489.pn. and grid$3	USPAT; US-PGPUB	2002/06/11 11:44
5	758422	6137489.pn. and grid$3 data	USPAT; US-PGPUB	2002/06/11 11:45
6	1	5796945.pn. and (grid$3 data weather)	USPAT; US-PGPUB	2002/06/11 11:48
7	0	dridded and data and encoded and weather and meteorolog$4	USPAT; US-PGPUB	2002/06/11 11:51
8	3	gridded and data and encoded and weather and meteorolog$4	USPAT; US-PGPUB	2002/06/11 11:51

GRIDDED WEATHER DATABASE

	U	1	Document ID	Issue Date	Pages
1	☐	☒	US 20020069020 A1	20020606	28
2	☐	☒	US 6360172 B1	20020319	29
3	☐	☐	US 5255190 A	19931019	18

	Title	Current OR	Current XRef
1	Generation and distribution of personalized multimedia natural phenomenological information	702/2	
2	Generation and distribution of personalized multimedia natural-phenomenological information	702/2	455/414
3	Software method for enhancing IR satellite sensor cloud images	702/3	348/33

	Retrieval Classif	Inventor	S	C	P	2	3	4	5
1		Burfeind, Craig et al.	☒	☐	☐	☐	☐	☐	☐
2		Burfeind, Craig et al.	☒	☐	☐	☐	☐	☐	☐
3		Sznaider, Ronald J.	☒	☐	☐	☐	☐	☐	☐

	Image Doc. Displayed	PT
1	US 20020069020	☐
2	US 6360172	☐
3	US 5255190	☐